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THE EXAMINATION OF DAIRY HERDS*

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In view of the increasing importance attached by health authorities and the general public to supplies of safe and disease-free milk, it is prudent for the veterinary profession, on whose shoulders the task of protecting the milk supply rests, to review the many points which arise in the examination of dairy herds. I propose, therefore, to deal with the practical side of the examination of dairy cows and the various diseases met with in our milk-producing herds.

The examination of dairy cattle falls under three main headings:—

(1) Routine examination for purposes of Section V of the Milk and Dairies (Consolidation) Act, 1915, and Part IV of the Milk and Dairies Order, 1926.

(2) Examination of Certified, Grade "A" (T.T.), and Grade "A" herds for purposes of the Milk (Special Designations) Order, 1923.

(3) Specific examinations of herds for the detection of cows responsible for tubercle-infected milk samples taken under Section 8 of the Milk and Dairies (Consolidation) Act, 1915.

(1) ROUTINE EXAMINATION OF DAIRY HERDS

This examination is made for the purpose of carrying out the provisions of Section 5 of the Milk and Dairies (Consolidation) Act, 1915, and Part IV of the Milk and Dairies Order, 1926, which prohibit the sale for human consumption, or use in the manufacture of products for human consumption, of milk from any cow suffering from the following diseased conditions: tuberculosis of the udder, emaciation due to tuberculosis, acute inflammation of the udder, actinomycosis of the udder, anthrax, foot-and-mouth disease, suppuration of the udder, any comatose condition, any septic condition of the uterus or any infection of the udder or teats which is likely to convey disease. In addition, no raw milk from any cow which is suffering from any of the three forms of tuberculosis specified in the Tuberculosis Order of 1925 may be sold or used for human consumption or used for any purpose until boiled or otherwise sterilised.

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Before considering in detail each of the diseases enumerated above, we must consider the frequency with which dairy cattle ought to be examined. In certain large cities, monthly examinations of all milk-producing herds are carried out; in others, quarterly examinations are made, while in most country districts dairy cattle are as yet left unexamined until such times as a complaint is received from urban consuming centres. The frequency of routine examinations obviously cannot be too great, but quarterly or even half-yearly examinations are the most that is practicable in country areas heavily stocked with dairy herds. Perhaps more important than the frequency of the examinations is the conditions under which they are carried out: no examination can be carried out thoroughly and with the best results unless it is made at a period of the day when the udders of the cows are entirely empty of milk and capable of being thoroughly palpated, free from the masking influence of accumulated milk in the milk-cistern and alveoli. Especially is this the case where we are examining for tuberculosis of the udder, and quarterly examinations made immediately after milking time, when the udders are quite empty, are productive of far better results than monthly examinations made at periods of the day when the udders are partly or wholly filled with milk.

Having chosen the most suitable time for the examination, our next concern is the examination itself and the recognition of the diseases and unsoundnesses to which the bovine udder is prone, and, having detected these conditions, we must decide their importance from the public health point of view and the suitability or otherwise of the milk from affected udders for human consumption.

The examination of herds for purposes of diagnosis of cases of tuberculosis of the udder claims first importance, and as the detection of these cases alone forms the basis of the majority of examinations, the question of the tuberculous udder calls for more than passing comment. I propose, therefore, to deal with tuberculosis of the udder at a later stage of this paper, after speaking of the somewhat less serious diseases of the cow's udder, and when discussing the examination of herds for this specific purpose.

EMACIATION DUE TO TUBERCULOSIS

Examination of dairy cattle reveals, in many herds, cases of tuberculous emaciation. Of the three scheduled forms of bovine tuberculosis,

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emaciation is the one most frequently reported by an owner, chiefly because of the obvious nature of the condition and the spectacular falling-away of the affected cow. A large number of cases, however, are not reported, either because the owner has failed to recognise the cause of the animal's condition or because, although aware of the presence of the disease in a dairy cow, he is eager to obtain from her the last drop of milk she is capable of giving before reporting and handing her over for slaughter. When examining herds it is necessary for us to pay careful attention to the general bodily condition of each animal, in addition to carrying out a minute examination of the udder. Tuberculous emaciation is to be found in animals of all ages, though more frequently in aged cows. The diagnosis of this condition is a matter of general experience and clinical art: it is sometimes difficult for us to say exactly *why* we think that tuberculosis is responsible for a particular case of emaciation presented for diagnosis and it is generally by the summing-up of many features of the case, together with the exercise of what we may term "clinical intuition," that we arrive at a final diagnosis. Certain symptoms of tuberculous emaciation may, however, be mentioned here: sinking and general loss of lustre and tone in the eyeball, dullness and impoverished condition of the hide and general hide-bound condition, loss of "newness" and lustre of the hair (the hair has an indefinable "tuberculous dryness"), tucking up of the belly, absence of diarrhœa, and a general worn-out appearance of the animal are some of the symptoms which, in conjunction, point to tuberculosis as the cause of the emaciation present. Occasionally, one is forced to fall back upon the use of one or other of the tuberculin tests as a further chain in the evidence in favour of a diagnosis of tuberculous emaciation. It is only in cases of emaciation that the tuberculin test has any real value in diagnosis; even then, a reaction to the test does not necessarily mean that the presence of tuberculosis is primarily responsible for the emaciation, but it does add confidence to one's diagnosis and safeguard one's opinion at the resulting *post-mortem* examination.

It is at first sight rather difficult to understand why there should be any danger in using the milk from an emaciation case, providing that the udder itself is free from the disease. We must remember, however, that in a number of emaciation cases, very early and unpalpable lesions may be present in the udder and also that, even though the udder be sound, there is a great risk of tubercle bacilli excreted from the bowel reaching the milk-pail unless the hygienic conditions under which milking is carried out are maintained at a very high level. There is therefore every justification for the prohibition of the use of milk from dairy cows suffering from tuberculous emaciation. In passing, one might add that some authorities claim that a cow which is affected with abdominal tuberculosis can excrete tubercle bacilli *via* the milk without having any lesions whatsoever in the udder. To that opinion I do not for a moment subscribe, as I have yet to see a case where a cow has produced tuberculous milk without showing, on careful and MINUTE *post-mortem* examination, some tuberculous lesion in the udder substance.

Chronic Tuberculous Cough

While a considerable number of cases of tuberculous emaciation are to be found by routine examination of herds, an even greater number of cases of chronic cough with definite clinical signs of tuberculosis are also to be found, if carefully searched for. Tuberculous cough may be found in cattle showing good average bodily condition as well as in more poorly-thriving animals, and the more outstanding signs of the condition are, in addition to the repeated and typical "incomplete" cough (the tuberculous cough generally appears as a kind of half-hearted expulsory effort which, owing no doubt to the pain it causes to the animal, seems to be never quite completed as compared with the definite and purposeful complete cough exhibited by animals sometimes after drinking or feeding or when solid material becomes temporarily lodged in the pharynx), a general lowered position of the head and poking of the nose, abdominal breathing and, what is most suspicious of all, the expulsion of pale yellowish-white sputum during the periods of coughing. Examination of the walls, troughs and partitions in front of the animal generally results in the finding of small masses of this sputum, and microscopical examination of smears made from this typical thick, whitish, glutinous sputum leads in practically all cases to the finding of ample numbers of tubercle bacilli.

Here again it may be difficult to understand why the milk from a case of tuberculous cough should not be used, but it really needs little imagination to see that where a cow is coughing up tubercle bacilli in copious numbers the whole surroundings of that animal are in an infective state, and the risk of contamination of the milk both during and after milking is very great.

Acute Inflammation of the Udder

Acute mastitis is seen in various forms, arising from different bacterial causes: the more common streptococcal mastitis occurring frequently in the form of outbreaks in many herds, staphylococcal mastitis occurring generally as isolated cases and leading frequently to necrosis and sloughing of parts of the udder, "summer mastitis," due to *B. pyogenes*, occurring in one or more isolated cases, but not as real outbreaks, in cattle running at grass in hot sultry summer

weather, and a small proportion of cases of necrotic mastitis due to *B. necrosis*, resulting generally from infection from contaminated pastures, soil, etc., gaining entrance to the udder *via* wounds and injuries to the udder or teats.

The diagnosis of acute mastitis presents no difficulty to the examiner, the symptoms being the usual ones found accompanying acute inflammatory conditions. The differential diagnosis of the various forms of mastitis is not always so easy, however, and it may be necessary in many cases to resort to microscopical and/or cultural examination of the udder secretion before being able to name conclusively the causal organism or organisms. On the purely clinical side, certain symptoms do help in differentiating between different forms of mastitis. In the case of streptococcal mastitis, while all the local symptoms of inflammation are present in the affected quarter or quarters of the udder, the general systemic disturbance in the cow herself is relatively slight and in the majority of cases her life is never in danger. The secretion from the affected udder is flaky and disintegrated into a " separated " serum-like fluid. Many cases of streptococcal mastitis never exhibit an acute stage and may be regarded as " chronic " cases from the outset. In the case of staphylococcal mastitis, the systemic disturbance is more severe and toxæmia and death are frequent terminations. In this type of case, necrosis, gangrene, and if the animal survives, sloughing of parts of the udder are common. The secretion from the affected udder is more watery and deeply stained with blood and rapidly develops a putrid odour. In the case of mastitis due to *B. pyogenes*, the systemic disturbance is noticeable, but fatal terminations are not so common as in the case of staphylococcal mastitis. The udder secretion is purulent and of a distinctly yellow colour and its viscid and tenacious character leads to its retention within the udder and the subsequent formation of large abscesses in the udder tissue.

It is not difficult to understand why the milk from a cow suffering from an acute mastitis should not be used for human consumption. In these cases, not only do the udders secrete milk laden with active organisms which, while perhaps not recognised as the specific cause of disease in humans, must nevertheless exert injurious effects upon the consumer of such milk, especially if the consumer's state of health and natural resistance to organisms are below normal.

Actinomycosis of the Udder

The occurrence of true actinomycosis of the udder in dairy cattle is now doubted, in the light of recent work on that subject, and the indurations and extensive proliferations of the connective tissues of the udder which were once thought to be due to the ray fungus have recently been shown to be due to the work of staphylococci. The condition may now be looked upon as a chronic mastitis and dealt with as " an infection of the udder which is likely to convey disease."

Anthrax

In the case of dairy cattle affected with anthrax, death is usually so rapid that the question of examination of the udder, or the possible use of the milk of an infected animal, does not arise. Very occasionally, however, one may encounter an animal which has been in contact with a fatal case of the disease and which shows an intensely high temperature and general signs of itself being affected, and in these cases, remembering that anthrax bacilli may be excreted by the milk for a short period prior to death, one must take the precaution of prohibiting the use of the milk from that animal.

Foot-and-Mouth Disease.

Whenever cases of foot-and-mouth disease are detected, the situation is immediately handed over to officials of the Ministry of Agriculture and Fisheries, when infected animals and their contacts are immediately slaughtered. Here again, the question of examination of udders and the possibility of the use of the milk from affected cows does not arise.

Suppuration of the Udder

Suppuration of the udder includes both external and internal formation and discharge of pus either from the skin and connective tissue of the udder or from the internal glandular tissue. Wounds, treads or other injuries to the intact skin of the udder may become the seats of pus formation: internally, cases of acute mastitis may subside and leave behind a suppurating condition of the udder tissue. Cases of suppuration of the exterior of the udder are obvious from inspection alone, while internal suppuration is detected by the examination of a small quantity of milk drawn from each quarter. It is readily understood that milk from an udder harbouring organisms which are capable of inducing continued suppuration from the interior, is unsafe to the human consumer, and that the almost certain contamination which must reach the pail from suppurating wounds, etc. on the surface of the udder renders the use of the milk from that particular animal unsuitable for human consumption.

Comatose Conditions

Under this heading we include milk fever, certain stages of post-parturient dyspepsia, and cases of animals suffering from infective or other conditions and which are in a moribund and comatose state. No special remarks need be made here as to the diagnosis of comatose

conditions, as the condition of coma in an animal is self-evident. It is readily appreciated that when a cow is in this state the milk is not normally secreted, and what little milk can be withdrawn from the udder is not of normal composition and is charged with toxins, and possibly organisms, in process of excretion from a physiologically unbalanced or a moribund body.

Septic Conditions of the Uterus

These conditions include septic metritis and vaginitis, sepsis associated with retained placenta and septic wounds of reproductive passages resulting from injuries received at parturition. Their presence is shown by characteristic discharges and odours as well as by the general systemic disturbance manifested by the animal. Contamination of the milk from affected cows results both from contamination of the teats with discharges from the genital passages and the excretion *via* the mammary tissue of bacteria and toxins circulating through the vascular systems of animals suffering from toxæmic or septicæmic complications. The use of the milk from such animals must obviously therefore be prohibited.

Infections of Udder or Teats Likely to Convey Disease

In this category are included cow-pox (variola vaccinia), varicella, and septic wounds and ulcerations of the udder or teats. The virus of cow-pox, being an attenuated form of that of human smallpox, is not dangerous to vaccinated humans but is capable of giving rise to malaise and pyrexia in unvaccinated persons. For this reason, milk which has become contaminated with the virus from ruptured pox-vesicles on the udder or teats of the cow must not be allowed to go for human consumption. Cowpox, occurring in rather serious outbreaks involving often a large proportion of the affected herd, is a serious matter in view of the pecuniary loss entailed in the stoppage of the use of milk from a large number of animals, and for this reason the restriction on the use of milk from affected animals should be minimised as far as possible consistent with safety to the consumer. The restriction, therefore, should be limited to the period between the rupture of the vesicles or pustules and the healing of the resulting ulcers. Wounds, etc., of the udder or teats, if maintained in a clean and healthy condition, free from suppuration, need not entail the prohibition of the use of milk from those animals.

(2) EXAMINATION OF CERTIFIED, GRADE "A" (T.T.), AND GRADE "A" HERDS

In the quarterly examination of Grade "A" herds and the half-yearly examinations of Certified and Grade "A" (T.T.) herds, additional conditions must be looked for, and their presence or absence certified in the Veterinary Certificate of clinical examination required by the Local Authority and the Ministry of Health respectively. These additional conditions are: indurated udder, enlargement of supramammary lymphatic glands, mastitis (chronic as well as acute), retained placenta (not necessarily septic), and abscess of the udder.

Indurated Udder

The texture of the udders of different cows varies immensely, and induration becomes largely a relative condition. One encounters many animals in which the udder is of a coarse or exceptionally firm texture and might be classed by different examiners as either normal or indurated. For purposes of this examination one has to decide whether the induration present is physiological or pathological; whether it is the result of an earlier attack of mastitis or a symptom of existing tuberculosis in the udder, or whether it is merely a hypertrophy due to increased function of the particular quarter or quarters. History of a previous attack of mastitis, thickening of the teat-duct, alteration in the character of the secretion and the discovery of streptococci, etc., in the milk will point to a previous mastitis as the origin of the induration: microscopic and bacteriological examination of the milk will decide the presence or absence of tuberculosis in the udder, and negative findings in all these examinations will justify our ignoring an apparent induration and our leaving the cow in the herd. In every case where distinct induration of one or more quarters is encountered it is one's duty either to satisfy oneself that it is due to mastitis (and so have the cow removed from the herd) or to negative the presence of tuberculosis of the udder before passing over the animal in question.

Enlargement of Supramammary Lymphatic Glands

Enlargement of the supramammary glands is in itself of little consequence. In many cases it is purely physiological and, in certain types of heavy milking cows with exaggerated udder formation, it appears to be the rule rather than the exception. On the other hand, in conjunction with an indurated quarter, enlargement of the corresponding lymph glands is highly significant of the possible presence of tuberculosis of the udder and calls for an examination of the milk. Furthermore, previous attacks of mastitis occasionally leave behind them an enlarged lymph gland and their history is useful in deciding between physiological and pathological enlargements of the gland. One does not feel fully justified, therefore, in ignoring an enlarged supramammary gland until one has negatived the possible presence of tuberculosis or mastitis.

Mastitis

In graded herds the presence of cows affected with mastitis, either acute or chronic, is not permissible. It is difficult to understand why chronic cases of mastitis may be allowed to remain in ordinary herds and not in graded ones, and one feels that an animal which is regarded either as dangerous, or as a source of higher bacterial counts in the milk of a graded herd, ought not to find a place in any herd supplying milk for human consumption.

Retained Placenta

Cows in which the placenta is retained for an abnormal length of time must not be allowed to contribute to the milk supplied from a graded herd. The question of what length of time renders the retention abnormal is a matter of opinion, and one suggests that an arbitrary period of 48 hours be considered as the dividing line between normal and abnormal retention. After that period a certain amount of infection and sepsis almost invariably takes place and the danger of contamination of the milk commences.

Abscess of the Udder

Abscess of the udder refers to local accumulations of pus in a suppurating udder and the observations on suppuration of the udder apply equally to this co-existent condition.

(3) EXAMINATION OF HERDS FOR THE DETECTION OF CASES OF TUBERCULOSIS OF THE UDDER

In all examinations of dairy cows the detection of tuberculosis of the udder claims primary importance and at the same time proves, in many instances, to be the most exacting task both in clinical skill and unremitting patience. This particular branch of herd inspection is worthy of a paper devoted to itself alone, but in the short space at my disposal I will attempt to give a brief summary of the major points encountered.

We will take a typical case of every-day occurrence and follow it through to its termination.

A sample of milk is taken by an inspector under the Authority into whose area the milk is consigned. The sample is taken direct from the churn as it reaches the purveyor's premises, and before it is mixed with the milk of any other producer. This sample of milk, about half-a-pint in quantity, is handed over to a bacteriologist for guinea-pig inoculation. At the end of four to six weeks, the guinea-pig is killed and *post-mortem* examination made, the identity of any lesions present being confirmed by the finding of the tubercle bacillus in smears made from those lesions. The existence of living tubercle bacilli in that particular supply, together with the identification of the producer and the date on which the infected sample was taken, are then reported to the County Authorities in whose area the producer's farm is situated. They in turn request one of their veterinary surgeons to examine that particular herd and attempt to trace the cow or cows responsible for the infection. Unfortunately, the law requires that the owner of the herd be notified of this intended examination and thereby affords him an opportunity of disposing of or concealing any animals that he suspects. Assuming, however, that all animals which contributed to the infected sample are available for our examination, we now consider the examination itself. We commence the examination in accordance with some set plan, beginning preferably from the left side of each cowshed and examining each cow in turn. It has already been pointed out that this examination, if it is to give the best results, should be carried out immediately after the cows have been milked and when thorough palpation of the udder is possible. Standing directly behind the cow, we begin by running the palm of the hand over the entire surface of the four quarters of the udder, after which we grasp the udder tissue between the thumb and fingers, drawing the hand over every part of the deeper tissue of the udder.

Tuberculosis of the udder presents to the touch a firm and, in well-developed cases, a stony induration of the mammary tissue. In the case of hind-quarters, this induration is usually found in one of two situations: (*a*) in the hindmost portion of the gland, extending upwards towards the supramammary gland, and (*b*) just in front of the base of the hind teat on a level with the top of the milk cistern. These are the two "predilection seats" for tuberculous induration in the hind-quarter, but it may and does sometimes occur in other parts of the quarter. The skin of the udder is freely moveable over the indurated tissue, and the feeling imparted to the hand is aptly likened to that produced by rubbing the hand over a corm of maize covered with soft leather. Enlargement and induration of the supramammary gland, if associated with induration of the corresponding quarter, are highly significant but, by itself, if merely enlarged it is of minor importance. Tuberculosis of a fore-quarter is much less common than of a hind-quarter, but when present it is much more readily recognised and diagnosed. A tuberculous fore-quarter develops much more rapidly than a hind-quarter and the induration generally involves practically the whole of the quarter, resulting in considerable enlargement and general hardness of the whole of the mammary tissue. In cases of tuberculosis of either fore- or hind-quarters, unless secondary infection is superimposed or tuberculosis superimposed on an existing chronic mastitis, no thickening of the teat-duct is encountered and,

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with the exception of dual-infections, this absence of induration of the teat-duct is a useful guide to differential diagnosis.

Having determined upon the cases of induration suggestive of tuberculous mastitis we now take samples of milk both from them and from the rest of the herd. As the cows are freshly milked, these samples consist of strippings which, in one's opinion, are best for examination for the presence of tubercle bacilli. The individual samples from suspected cows are taken by milking directly into the bottle after having previously wiped the teats free from loose hairs and other contaminants. The bulk sample is taken by drawing from each of the remaining unsuspected cows of the herd two or three draws of milk from each quarter. If the herd is a large one, we may divide it into convenient groups and take bulk samples from each group, so that if the suspected samples prove negative, we may reduce the second examination to one of the groups and so increase the chances of success at our next attempt to trace the affected cow or cows.

We are now faced with the problem of deciding whether to prohibit the use of milk from the cows from which we have taken individual samples. As these are suspected animals we have power by notice served under Article 10 of the Tuberculosis Order of 1925, to prohibit the use of their milk (until boiled or sterilised) for a period of six weeks. One feels, however, that in fairness to an owner and in view of the loss entailed in the stoppage of the milk from several cows, a microscopical examination of all individual samples should be carried out and that, in cases where such examination proves negative, the use of the milk pending the results of the biological test should not be prohibited.

The above notes form but a sketchy outline of the extremely wide subject of Dairy Herd Examination. Very many points have been left unmentioned, and one hopes that these will arise during the ensuing discussion.

Discussion

Mr. G. J. Roberts, who opened the discussion, said he was somewhat at a disadvantage. He had agreed, although he was not acquainted with Mr. Burrow, to open the discussion provided that he should have an opportunity of seeing the paper beforehand. But as it had been delayed in its arrival, he had not had that opportunity which he would have desired. He felt also that he was unable to contribute as much as he had hoped to the discussion, since so much of the paper dealt with an aspect of dairy herd examination with which he was not greatly concerned in his practice. He was, however, particularly interested in the last part of the paper.

In connection with tuberculosis, he could have wished that Mr. Burrow had given them some information with regard to the technique of tuberculin testing. He would like to know which test Mr. Burrow favoured most. The latter had said that it was important that the cows should be examined with their udders empty, but how many herds could he hope to examine in this condition when the farms might be five miles apart? It would not be an easy matter for a country practitioner to get through his work if he had to insist on visiting the farms immediately after milking. When speaking of the clinical examination, what did the essayist mean by "clinical intuition"? He had not heard of such a subject, and suggested that it might be something only recently introduced into the course of training at the schools. Dealing with symptoms, the speaker thought that the usual report from the client was that the cow was going down in condition, but her eye remained bright. He had never noticed the lack of lustre referred to by Mr. Burrow. He considered it incorrect to say that diarrhœa never occurred. Surely they had met with tuberculosis of the bowels with emaciation. Mr. Roberts said he relied on the tuberculin test in the chronic cough cases, and almost invariably he found that 50 per cent. reacted. He had difficulty in detecting the organisms in sputum, and would like Mr. Burrow to tell them how he collected the sample and treated it. In connection with the detection of organisms, he thought that in cases of acute mastitis it was unnecessary for the practitioner to worry as to which was the offending organism. The treatment was the same in each case.

Mr. Burrow had referred to anthrax, and that reminded the speaker of an outbreak on a farm when he recalled that 26 animals had died, eight of which were milch cows. It was due to the farmer making a *post-mortem* in the stack-yard, with the result that the hay became infected. He took the temperatures of the cows every day for six weeks, and, provided the temperature was normal, the milk was used.

Dealing with septic metritis, the essayist had referred to the toxins excreted or secreted in the milk. He would like to know whether there was proof that the mammary gland did in fact excrete such toxins. He failed to see why the Ministry required a cow with a retained placenta to be excluded from a herd producing certified milk. If the cow might be expected to cleanse in three days he thought she might remain. Then, again, what was meant by a "herd"? He thought it a very ambiguous term. Could it, for example, refer to a portion of the stock of a farm kept apart from the remainder? He would like the views of other members on that point.

With regard to palpation of the mammary gland, he thought the best description of an affected gland was that it resembled Sorbo rubber. It was never stony. He was averse to placing too much reliance on the condition of the supra-mammary gland. They had to remember that the gland would naturally become enlarged if the udder was enlarged, as was the case in a heavy milker. There were, he thought, three categories into which veterinary surgeons might be grouped: (1) the man who thought he knew all; (2) the man who took samples and examined them himself, and knew little; (3) the man who was sure of 90 per cent. of his cases before he need refer to his microscope. He thought Mr. Burrow had proved he came in the last category. He thanked him for his valuable paper.

The President (Mr. R. L. Lewis) agreed with Mr. Roberts that, in tuberculosis, there was no loss of lustre in the eye, although with emaciation there was a sinking of the eye in the orbit, due to the loss of orbital fat. He agreed, too, with Mr. Burrow that the udder was best examined when empty. A point which had not been mentioned was the possibility of what might be

termed a latent tuberculous mammitis becoming active after calving. Farmers found such cases out after they had purchased dry cows in a mart. He thought the taking of temperatures was most important in tuberculosis. The thermometer was a reliable indication of the presence or absence of disease.

Dr. R. F. Montgomerie said he noted that Mr. Burrow spoke of taking a sample of milk from *the* churn when investigating the source of infected milk. But there might be three or more churns from a farm. Would it not be wiser to take a sample from each churn—thus ensuring a herd sample? With regard to the duties of an Inspector, he asked whether an Inspector was appointed under a specific Act or Order, and whether every County Council had anyone to inspect other than inspectors acting under the Milk and Dairies Act. He thought it was incumbent on the Medical Officer of Health to take steps to prevent the consumption of milk reported as being from infected cows, therefore he must take action in some cases. Mention had been made of the difficulty in finding the so-called "cell groups." They were a valuable factor in microscopical examination, and could be viewed under the $\frac{1}{12}$-in. objective. His opinion of what constituted a herd was the collection of all the cattle kept on the land and in the buildings of the farm. He would like to ask Mr. Burrow's opinion as to what was the best procedure to prohibit temporarily the use of milk suspected of being tuberculous.

Mr. J. Cane offered his quota of thanks to Mr. Burrow for his stimulating paper. He was interested in the point raised by Dr. Montgomerie with regard to cases coming under the precautionary notice. If he (Mr. Cane) suspected a tuberculous udder he put the animal under the restrictions of the Tuberculosis Order (Articles 10 and 11) so that the owner must not use the milk until he heard from him again. He found that Inspectors under the Tuberculosis Order were usually also Inspectors under the Diseases of Animals Acts, and the Milk and Dairies Order. With regard to examining milk, he always examined every individual sample. The answer to the question as to what constituted the herd was, in his opinion, "simply the milking herd."

The Reply

Mr. Burrow, replying to the discussion, thanked the members for the interest they had shown in his paper. He felt that he had taken on rather too wide a subject, but it was done with a purpose—to give all an incentive to speak on some aspect of the subject. He had deliberately left out tuberculin testing, as that alone was a very big question. He had been asked for his opinion of the tests, and he felt that he was then wavering between the double intradermal and the subcutaneous tests. He had made some 3,000 intradermal tests, and he felt that if one got a definite reaction the test was good, but indefinite reactions certainly occurred and he was not inclined to condemn these animals. He had proved that some animals giving an indefinite reaction at the first test gave a negative reaction six months later. He thought the alternating of those two tests was a useful procedure. The ophthalmic test was also good, but the reaction must be watched for between the fourth to the sixteenth hour. In the majority of cases the reaction had disappeared at the twenty-fourth hour. He maintained that the udder must be empty if a satisfactory examination was to be made. They wanted early cases and these certainly could not be diagnosed if the gland was full. It must be admitted that it took more time but it was seldom that one failed to detect an early induration if this procedure was followed.

Mr. Roberts had said that he did not understand the term "clinical intuition." He (Mr. Burrow) thought that while that was excusable in youth it was not so in a practitioner of Mr. Roberts' experience. With regard to the question of the presence or absence of diarrhœa in tuberculosis, he would say definitely that the majority of tuberculosis cases did not show diarrhœa. In cases of chronic cough he considered it very advisable to examine the sputum. He always did so and rarely did he overlook an infected animal. He agreed that the knowledge of the specific organisms causing acute mastitis was not so important, but it was at the same time some satisfaction to be able to assess their importance and to name them on a certificate. Mr. Roberts had asked for proof of the statement that toxins occurred in the milk of a cow having a septic uterus. He was not aware that the fact had been proved, but he failed to see how, in these cases, any excretion or secretion could be free from toxins. He was of the same opinion as Mr. Roberts with regard to the value of palpating the supramammary glands and stressed the value of an examination of the milk. He thought slaughter of a cow with indurated udder alone was rarely justified unless the organism was found in the milk.

With regard to the question "What is a herd"? he regarded a herd, at least on a Grade "A" farm, as the group of cows which were producing the milk sold as Grade "A" milk. It must be remembered that the Ministry of Health permitted two kinds of milk to be produced, and therefore two groups of cows to be kept on the same premises if kept separate. The question of lustre in the eye was a debatable point. He found that something was lacking, though it was difficult to describe exactly. Mr. Lewis had raised an important point in connection with the examination of dry cows. Such animals were difficult to examine. They might show a certain lumpiness of the udder when dry, yet they would calve down "right and straight." He made a point of asking the permission of the owner before drawing a "dry" udder, for he had known an objection raised later that the interference with the quiescent udder had been responsible for udder trouble after calving. He agreed with Dr. Montgomerie that, in examining churn milk, it was best to take a mixed sample.

As regards inspectors and their duties, the county system varied somewhat. He agreed that the Medical Officer of Health must take action, but that action need not necessarily mean treating the whole herd as suspect. He emphasised the importance of cell groups in the microscopical examination. They could be found under the low power and then studied under the oil immersion lense. There were two ways of preventing the use of suspected milk. One might serve a five-days' notice on the owner, but this was cumbersome. Advice, however, was better than an order to a reliable producer and his method was to tell such a man that he wished him not to use the milk until he (the speaker) called again. In the meantime, he endeavoured to make a diagnosis as soon as possible. In dealing with unscrupulous persons the alternative was to report the case under the Order and serve a notice stopping the use of the raw milk from the suspected cow.

THE MAINTENANCE OF HEALTH IN THE RABBITRY*

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The British Fur Rabbit Society can look back with justifiable satisfaction on the success of its activities for some 14 years on behalf of the rabbit industry of Great Britain. To-day the rabbit industry represents a not inconsiderable source of national wealth as measured by the value of its stock of approximately 850,000 rabbits, of the foodstuffs consumed, of the 308 shows organised each year, of the labour employed and of the industry's many contributions to subsidiary trades.

Though the actual value of the rabbit industry has not been assessed, it is obvious from Board of Trade returns that its potential value is considerable. For example, Great Britain is importing rabbit fur, wool and flesh to the annual value of £1,500,000. With some fiscal assistance from Government the greater part of this payment to foreign countries could be devoted to the home industry, which is capable of supplying the greater part, if not all, of the country's requirements. It has been estimated that with such fiscal assistance the home industry would very quickly expand to a minimum annual stock value of £5,000,000, when it would take its place as one of the principal stock-raising industries of Great Britain.

However, no amount of breeding, marketing and fiscal organisation will benefit the owner of diseased stock. At present many breeders are suffering heavy losses solely due to disease in their rabbits. ***The success of any measures for the development of the rabbit industry will ultimately depend upon the maintainance of a healthy rabbit population.*** The prevention and treatment of disease in the rabbit has become the greatest and most difficult problem with which the industry is faced.

For some years the method of solving this problem has been the serious concern of many leading rabbit breeders who have recognised, firstly, that the latest advice in the treatment and prevention of disease should be made available to the rabbit breeder and, secondly, that this advice should be given to the individual breeder in a form which he can understand and act upon. It has been abundantly proved by the larger animal stock-raising industries that the most satisfactory service for the individual breeder is provided by the veterinary surgeon in private practice, who is familiar with local conditions.

Just as our family doctor requires the help of research laboratories and hospitals for his service to our sick bodies, so the veterinary practitioner serving the rabbit owner's interests, needs the support of an institution which is devoted to the study of disease in the rabbit. Such an institution does not exist in Great Britain; but the Principal and Governors of the Royal Veterinary College have prepared plans for the establishment of a laboratory to be devoted to research and instruction in the diseases of the rabbit and other small fur-bearing animals. They have authorised me to state that so soon as £2,000 has been contributed to their appeal fund a beginning on this urgently-needed research will be made. At present about £600 has been contributed to the appeal which is regularly published in and with the support of the Fancy press.

The launching of this appeal has focussed the attention of the public on the needs of the rabbit industry; it has induced many veterinary practitioners to prepare themselves to undertake practice on behalf of rabbit breeders; and it has encouraged leaders of the rabbit industry and representatives of the veterinary profession to work together for the common welfare. But much more can be done by the rabbit breeder.

For example, one of the most important preparations which the industry can undertake is the institution of veterinary inspection of rabbit shows. Writing recently on the desirability of appointing veterinary surgeons to rabbit shows, the editor of *Fur and Feather* stated that " the development of this system could not possibly fail to create that close bond between the veterinary profession and the practical breeders which is so desirable. Veterinary surgeons and practical breeders working in close contact in this manner will lead to combined study and exchanges of opinion, and consequently, research into rabbit and other small animal diseases will be accelerated enormously." The prevention of contagious diseases by means of the veterinary inspection of exhibits at shows has long been recognised as contributing to the welfare of the large animal industries.

Many conversations have taken place as to the best means of bringing the services of the veterinary profession into the rabbitry of the individual owner. It has been said that a large proportion of owners have refrained from seeking the advice they need on the assumption that a veterinary surgeon's fees would be beyond the value of the sick animal. Such a misconception need never arise provided rabbit societies will take the initiative by getting into touch with their local veterinary surgeon. It has been suggested that a society should agree with the veterinary surgeon on a retainer fee payable annually by the society, for which the veterinary surgeon would do the work of individual members at charges which had been mutually agreed

* Reproduced from *The British Fur Rabbit Society's Year Book*, January, 1933, by courtesy of the author and the Society.

Clinical and Case Reports

SOME COMMENTS ON A RECENT OUTBREAK AMONGST PIT HORSES*

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Our worthy Secretary placed me on the Agenda to make "Some Comments on a Recent Outbreak amongst Pit horses" without asking if there were any features connected with it which might be of interest to you or give rise to a profitable discussion. Perhaps a general outline of the outbreak and a mention of the control measures adopted might interest you, but what would interest me would be a discussion in which you freely expressed your opinions on the following points: Are influenza and strangles separate clinical entities? If so, was the outbreak influenza or strangles?

I will give you first, therefore, a brief general outline of the outbreak, and in so doing endeavour to supply you with material on which to base your conclusions. May I here say that all the horses were over four years of age, the average being well over six years. The outbreak commenced in the middle of August last, and coincided with the advent of the heat wave which was then experienced. I did wonder whether the heat wave was, to some extent, a predisposing cause, as it certainly made the conditions of horse labour in the mines more exhausting, thereby lowering the vitality of the animals, and their powers of resistance to disease. The season of the year was an unusual one for an outbreak of this nature, as in my experience they usually occur in the winter, perhaps more particularly in the spring months. It was sudden in its onset, and rapid in its spread and development.

* Presented to the Annual Meeting of the Mid-West and South Wales Division, N.V.M.A., at Bristol, January 20th, 1933.

upon by the society and its veterinary surgeon. Once local rabbit societies make known their demands for veterinary service they will receive a response from the veterinary surgeons in private practice. At present the societies are not exhibiting any such desire and it is they who should express the demand.

This period of acute economic depression is the very time for every society to formulate plans for the development of its members' interests and to encourage its members to replace empirical methods by those of science in the treatment and prevention of disease. The rabbit industry of this country has prospects of considerable economic development which will materialise provided it makes the maintenance of health in its rabbits the basis of its preparations.

Its distribution may be of interest to you. Within a radius of six miles there were 12 pits, with 580 horses, of which five only, with 261 horses, were attacked. Of the 261 horses, 104 were affected, or approximately 40 per cent. Some of the infected pits freely communicated by underground roads with those unaffected. The outbreak commenced at a pit which I will call No. 1, where there were 65 horses, accommodated in four stables, all stables being infected at the outset. In all, 36, or approximately 55 per cent., of the horses were affected, 30 within the first three days. A week later, the affection appeared at Pit No. 2, six miles away, as the crow flies, and in a different valley. Here there were 56 horses in three stables. Here again, all stables were infected on the first day, and 36, or 64 per cent., of the horses were affected, 28 in the first three days. Four days later it appeared at Pit No. 3, situated midway between Nos. 1 and 2, and in the same valley as No. 2, where there were 40 horses. Here the infection was confined to a stable of 18 horses, 10 of which were infected, eight on the first day. Three days later it appeared at Pit No. 4, in the same valley and near by No. 1. Here there were 88 horses, 50 on one side of the pit, and 38 in one stable on the other side. Here again, it confined itself to the stable of 38 horses, 14 of which were attacked, 10 in the first three days. Five days later, a very modified type of the infection appeared in Mine No. 5, situated near both Nos. 1 and 4. The disease here was just what one may term an evanescent or fleeting pyrexia with slight catarrh. Of the 12 horses in this mine eight were affected in the first three days, and there were no further cases.

The horses in both the infected and uninfected pits received their fodder supply from the same granary. This latter fact removed any suspicion that the food supply might have been the source of infection. The evidence of my clinical experience in outbreaks of this nature amongst pit horses, points to the introduction of fresh or new horses as the most common source of infection, but to none of these pits had any fresh horses been introduced for over a period of eight weeks; it is to-day recognised that recovered or convalescent horses can act as carriers or disseminators of diseases of this nature for a considerable time. This feature nullifies the value of the usual method adopted to prevent the introduction to the mines of such diseases by fresh horses, *viz.*, by a limited period, usually 14 days, of quarantine, alone.

SYMPTOMS

The disease was initiated in each mine by the exhibition, by some of the animals, of a short dry cough, According to our usual custom, temperatures were taken, and elevations ranging from 102° to 106° F. were recorded. The

syndrome of the average case was mainly fever with catarrhal symptoms. Apart from fever in all, and cough in some, the animals were normal in appearance. They were bright, on their feed, showing little, if any respiratory disturbance, and the pulse was but slightly accelerated, particularly in comparison with the temperature registered. Apart from hearing an occasional cough and observing the nasal discharge, it would have been difficult for anyone walking through the infected stables, at any time of the run of the disease, to note anything out of the normal with these pit animals. There were no appreciable cases of anorexia, and but few with dysphagia from the accompanying slight pharyngitis; the conjunctival membranes were slightly injected, in severe cases being reddened; there was no icterus, nor was there lachrymation. A trickle of watery discharge from the nostrils was noted in some, with slight swelling of the submaxillary lymphatic glands. Five of these later developed the characteristic symptom of strangles—abscess formation in the gland tissue. Horses with pharyngitis and cough exhibited but slight tenderness on pressure over that region. Invariably by the second day the nasal secretion became more profuse, turbid and tenacious in character, and towards the third and fourth days more copious and purulent. With the advent of the nasal catarrh, cough in the horses affected became moist and more frequent, but rarely painful or troublesome. Towards the sixth day, the nasal discharge commenced to diminish, and with the diminution of the suppurative process, defervescence was observed, the temperature becoming normal towards the eighth day. From this stage the animals speedily recovered, and having well maintained their strength during the attack, were soon again fit for work. Of course, in this, as in all epidemic outbreaks, there were varying degrees of intensity of the disease in individual animals, but the earlier cases were generally the more acute. I particularly wish to emphasise the general brightness of the horses throughout the attack, and the absence of dejection, langour of movement, photophobia, tendency to swelling of the eyelids and pendent parts of the body and legs.

COMPLICATIONS.

As I have already stated, five cases showed the characteristic symptoms of strangles—abscess formation in the gland tissue—and ran the usual normal course. There was one of intestinal infection manifested by slight colicky pain, and diarrhœa, which responded to a few doses of chorodyne and starch flour gruel. It may be of interest to note that this animal made a good recovery, returned to work, and remained in good condition for six weeks. It was then reported that this animal was going off its feed, and showing occasional abdominal pain. It was put off work, raised to the surface, but progressively became worse, dejected and emaciated, and was destroyed. The *post-mortem* revealed a mesenteric abscess in the sublumbar region, containing at least a quart of pus. Undoubtedly, this was due to the original infection.

The only other sequel was a case of purpura hæmorrhagica. It was an acute case, the head and three legs being greatly swollen at the onset. The animal was destroyed, being aged and of little value.

NATURE OF OUTBREAK

There is to-day a tendency to apply that collective and wide-meaning term, influenza, to all epidemic outbreaks, and even to innumerable sporadic cases manifesting fever and catarrhal symptoms. Is this laxity due to difficulty of differential clinical diagnosis or to the acceptance of the theory that the influenza virus is the primary cause of all equine epidemic catarrhal affections? This theory implies that infectious nasal catarrhs, strangles, and contagious pleuro-pneumonia are but secondary complications of influenza and due to secondary infections, *i.e.*, that strangles in any form is not a separate clinical entity. I leave contagious pleuro-pneumonia out of the argument as none of the cases in this outbreak indicated any pulmonary involvement. Authorities state that the catarrhal sypmtoms of influenza are due to pyogenic organisms, particularly streptococci. Then again, we know that streptococci are constantly present in strangles, catarrh and abscess pus. Is it the same organism? Continental investigators definitely state that they are different organisms and distinguishable by their action in laboratory tests. It is generally credited that the primary causal organism of influenza is an ultra-visible virus, and from his recent researches, Major Arnold, R.A.V.C. (*Veterinary Record*, May 28th, 1932, and *Journal of R.A.V.C.*, February and May, 1932) has evolved the theory that strangles is a dual disease—one due to a filter passing virus as the cause of the febrile disturbances alone, and contagious, and the second due to pyogenic organisms which produce the recognised manifestations of this disease, *viz.*, catarrh and abscess. It is stated that influenza can manifest itself solely by fever and catarrhal symptoms, the usual symptoms of marked derangement of the nervous and vascular systems being absent. I have had experience of many outbreaks of what I consider to be true influenza, and in all these, nervous and vascular manifestations were pronounced and similar to those described by Mr. C. P. King, in the *Veterinary Record* of April 2nd, 1932. Again, it is stated that strangles of an atypical type can occur as an epidemic manifesting only fever and catarrhal symptoms. Obviously we have so much yet to learn of the etiology and pathology of influenza

and strangles (though Major Arnold's researches have thrown considerable light on the latter) that I think it best at the present time still to consider these two diseases as separate clinical entities. Admittedly it is not easy to differentiate clinically between influenza and strangles when fever and catarrhal symptoms are alone manifested; nevertheless, we should guard against laxity in arriving at a correct diagnosis, though perhaps from a clinical point of view, as regards control measures and treatment, it appears to be of minor importance. Correct diagnosis possibly can only be established when some of the affected horses show some of the characteristic nervous and vascular symptoms of influenza on the one hand, or, on the other, the characteristic symptom of strangles. In the outbreak of which I am speaking several cases, as I have already stated, ran true to strangles, *viz.*, abscess formation in the gland tissue, and the symptoms which I consider characteristic of influenza were conspicuous by their absence. The only feature of the outbreak which might indicate influenza was the sudden onset and rapid spread of the disease. The symptoms and the course run were in all respects similar to what I frequently experience in my quarantine stables when, of a batch of new horses, one or two develop typical strangles, and the remainder symptoms as described in this outbreak.

CONTROL MEASURES

The first essential is, as we know, the segregation of all sick animals. Next in importance is the taking of the temperatures of the in-contact horses, as the use of the thermometer enables the detection of cases in the early stages and secures early cessation from work—an important detail from an economic as well as from a therapeutic point of view. Temperatures of all horses were taken twice daily, particularly before they went out to work.

Segregation.

In these mines I could not carry out this first essential owing to lack of adequate accommodation, on the surface or underground, for a number of horses. In the first two mines infected, as already stated, there were cases in all the stables at the onset of the disease. Presuming I had to deal with a disease of an epidemic nature, and assuming that other horses were then in the incubative stage, and perhaps realising under the existing conditions the impossibility of confining the disease, I decided that the best way to shorten the time of the outbreak was to let the infection run its course. As I had respectively in Pits Nos. 1 and 2, 46 per cent. and 50 per cent. of the horses down within 72 hours, I think segregation would have proved of little value. In these mines control was only attempted by the ordinary disinfecting measures. In Mines 3 and 4 I isolated the infected horses in the only way possible in underground stables, where the air supply enters at one end and goes out at the other, *viz.*, at the air outlet end of the stable. This at best is a poor method, as the sick animals are placed where the supply of fresh air, which is so essential, is thinnest. However successful the method of treating the disease, its control and prevention are of greater importance economically.

Injection Treatment.

In Mine No. 3 I tried as a control measure, with satisfactory results, intratracheal injections of formalin as recommended on the Continent by Bottini, and in this country by Mr. Collinson of Sheffield (*Veterinary Record*, June 18th, 1932). The formalin was given in the strength recommended by Mr. Collinson, *viz.*, 2 per cent. solution, in doses of 15-20 c.c. according to size of animal. These horses were of the heavy pit type, 14·2 to 15·1 hands high. Violent coughing follows the formalin injection, but soon passes off. Mr. Collinson states that the coughing serves the purpose of dispersing the fluid through the upper air passages, and during inspiratory efforts sucking it into the lungs. Following the injections, only two further cases of a very mild type occurred and they certainly arrested or aborted the attack in the infected horses injected, as the animals quickly recovered without passing through the phases of the disease as observed in Pits Nos. 1 and 2. In Pit No. 4 I injected the 38 horses in the infected stable, half of the ten sick horses and half of the 28 in-contact, with the formalin solution, and the other half with iodine solution, as recommended by Major Arnold, *viz.*, iodine 1 part, pot. iodid, 5 parts, and aqua distil. 100 parts. Results were highly satisfactory, as in the formalin-injected in-contact horses no further cases occurred, and only four in those treated with iodine. With both solutions the intensity of the attack was again modified in the sick animals treated. This treatment appears to be sound, as it is generally stated that the focus of infection is principally in the pharynx and upper air passages. The horses in Pit No. 5, sick and in-contact, were injected with the iodine solution with equally satisfactory results. If I have to deal with similar outbreaks in the future I shall certainly give these injections further trial. It appears that Major Arnold has produced a rapid and solid immunity with a freshly-prepared bacteria-free filtrate of strangles pus. I am hoping to read shortly of further satisfactory trials with this product, as it will be a great boon, particularly to those of us who have the management of large industrial studs, to have at our service an immunity-conferring product. Acquired immunity by present methods has not proved sufficiently reliable to be a useful factor in the control of these diseases.

XUM

General Treatment.

Apart from regulation of diet—feeding little at a time, and removing all food left over—supplying as much fresh air as was possible, and also a free supply of drinking water, little medicinal treatment was indicated in the average run of cases. Pot. chlor. was given to all in the drinking water, and salines when necessary. The more severe cases were treated on their merits according to the intensity of symptoms exhibited. Where there was initial high fever I gave a few doses of quinine electuary with 30 c.c. anti-influenza serum, which I find invariably aborts an acute attack. In a few of the most severe cases I also gave subcutaneous injections of nuclein, in which I have much confidence. Cleansing and swabbing of the nostrils with warm boric solution had a marked freshening effect.

[N.B.—In spite of the extreme difficulty in carrying out intratracheal or subcutaneous injections aseptically in the surroundings of a pit stable, I was fortunate only to have to deal with two abscesses as a sequel. Care is necessary with the formalin solution to see that the needle or trocar is dry and before withdrawal washed out with a little clear water.]

At the time of the outbreak I had 14 horses from these infected mines on the surface, they having been brought up for exhibition purposes. Before returning them to these hotbeds of infection, I subjected them to inoculation with streptococcic bacterin, giving 30 c.c. anti-influenza serum at the same time; I also injected them once intratracheally with the iodine solution. In due course they were sent to their respective mines and all remained free then and since, but to which of the methods employed the apparent immunity was due, I am not prepared to say, but incline to the opinion that the serum and iodine injections were the factors, if the immunity could be attributed to the methods adopted.

Discussion

Mr. W. M. Scott said that they had just listened to a very learned dissertation from Mr. Rees, such as one would expect from so careful an observer, and sound clinician. The essayist seemed exercised, and he thought unduly, in arriving at a conclusion when he came to the question of naming the outbreak he had described. He need hardly remind him that the word "influenza" hid a cartload of ignorance, and that if he erred in using the term he was in good company. Looking at the context of the paper broadly, one was almost inclined to the view that the elementals of influenza and strangles existed. Mr. Rees had described one case which died, the *post-mortem* revealing mesenteric abscesses. That pointed to true irregular strangles. The streptococci in that case, having passed through the mucosæ, were taken up by the blood and lymph stream and became "housed" in the visceral lymph glands. Then he had recited another case ending in "purpura" and caused, no doubt by a streptococcus, probably of the hæmolytic type. Where influenza began and strangles ended, or *vice versa*, was a moot and hypothetical point. He did think, however, that the root cause of those two diseases was a virus or enzyme, call it what one would, and by its toxic action it so depressed the natural immune forces of the body that the saprophytic streptococci normally inhabiting the upper respiratory mucosæ, became parasitic, ran riot, and set up acute catarrh with consequent muco-purulent discharges, glandular enlargement and suppuration. Whether the virus was the same in both diseases was only conjectural, but he did think that an animal that had had strangles during adolescence was "salted" for life and it was possible that the case of strangles in that outbreak did not so suffer in its early life.

As regards treatment, whatever line they adopted in all specific infections, they must always remember that it was the *vis medicatrix naturæ* that did the work, and we got the credit. Therefore, the principal way in which we could assist nature was by activating the natural tissue bodies, *i.e.*, opsonins, anti-toxins, etc. In the case of an animal suffering from either of those diseases, as a curative agent anti-toxic (polyvalent) streptococcal sera were indicated; and as a prophylactic, when we wanted to prevent extension to others, vaccination, preferably *auto*-vaccination. Mr. Masheter had mentioned that he treated two acute cases with "bacterins" (the word was an objectionable Americanism) and they recovered, should he say, in spite of this treatment, for such a line of treatment was unscientific. In the case of an animal suffering from an acute general infection the system was charged already with toxins, hence the rise of temperature, malaise, etc. A vaccine or bacterin was charged with biological toxins; then why add more toxic products to an already overcharged toxic animal? Then again, in the selection of a vaccine, it must be remembered that there were many strains of streptococci, from the avirulent type to the virulent hæmolytic group; further, a vaccine was specific in its action or nearly so; if, therefore, the vaccine did not embody the proper strain, the therapeutical results might be negative or not good, which brought them back to autogenous vaccination. From considerable experience in outbreaks of that kind, in-contact cases could be rendered immune by auto-vaccines and in racing and hunting stables in particular that was important, for whistling and roaring were serious sequelæ to influenza and strangles and must always be reckoned with.

Mr. Rees had adopted the intratracheal injection of formalin and iodine. Formalin was an excellent antiseptic and antizymotic, but he was not aware that it possessed antitoxic properties, and he failed to see how it could destroy bacteria in the respiratory tract and at the same time leave intact the phagocytes and mucous membrane cells. As regarded iodine, that was a valuable drug, and was a tissue constituent. It also had a specific influence on the lymphatic system, which was all to the good. Nuclein was credited with stimulating phagocytosis and, if that was so, was a useful agent also.

The President (Mr. J. R. Hewer) in thanking Mr. Rees for his most instructive and interesting discourse on his recent experiences, remarked that it was especially interesting to the country practitioners, since one did not meet with these outbreaks so much now as formerly and discussions of that sort kept them up-to-date.

Mr. Rees mentioned that no fresh horses had been imported into the mines for six or eight

weeks; how did he consider, then, that disease was introduced ?

He quite agreed with Mr. Rees that it was imperative to isolate fresh horses for a period before introducing them to the home animals.

He also agreed that the taking of twice daily temperatures of the healthy horses was imperative in an outbreak of that sort.

The essayist had mentioned as one complication, purpura; was that case of long duration before the onset of purpura ? He had also said that he used serum and intratracheal injections, but if he were in private practice which would he use—serum or iodine, or formalin, if money was a consideration ? Again, which would he use as a preventive—serum or bacterin, or formalin, or iodine ?

They had been set a conundrum—to name the disease—which no one seemed to take up, but as there were three cases of abscess in the submaxillary gland, he presumed it was strangles ? How could Mr. Rees account for so few typical cases of strangles ? Was it that the treatment was abortive of its development, or was it due to the age of the horses and previous attacks ?

Several speakers had advocated the use of bacterins for treatment, and he must say he had had good results following their use. One great objection to autogenous vaccine was, of course, the time taken in collecting material, and its ultimate manufacture, which certainly put it out of court in that outbreak.

He thought that Mr. Rees was to be congratulated on his treatment and freedom from pneumonia, and other complications, and considered it spoke well for the ventilation of the pits.

He had found a nasal douche (using the stomach tube) of normal saline solution, with a little carbolic acid—pumping up one nostril, the liquid flowing down the other—very useful in cleaning up chronic nasal discharge.

Mr. C. R. Golledge said that, in his opinion, there was no doubt that staphylococcus, streptococcus bacterin was effective in the treatment of equine influenza. Unlike Mr. Rees and others, who had apparently used so many treatments at the same time that they were unable to decide which had been instrumental in effecting a cure, he usually used ordinary medicinal treatment and bacterin only, either singly or together. For outbreaks in private stables he always used both together, but when dealing with outbreaks of influenza in barracks he had experimented by giving some horses medicinal treatment alone and others medicine *plus* bacterin. Those receiving bacterin always made a more rapid recovery than the others.

His experience seemed to upset Mr. Scott's argument against the use of a mixed bacterin. He agreed with Mr. Scott that theoretically an autogenous vaccine was the correct thing to use, but theory did not always prove to be satisfactory in practice.

Mr. J. W. Hall Masheter stated that during September, 1932, he experienced in a stable of 37 horses, in one of the coal pits in the Forest of Dean which was under his charge, an epidemic of a " catarrhal fever " nature, the origin of which could not be traced, but a fortnight or so before he had put two fresh horses into that stable. To all appearances they were quite healthy when sent down.

The symptoms, all of a catarrhal nature, varied considerably. Three cases were typically *strangles*. Seven cases showed swelling of the submaxillary glands, which did not come to abscess formation but simply sweated a serosanguineous fluid. All showed nasal catarrh.

One case was a very persistent post-pharyngeal abscess, and one had the most profuse " sticky " catarrhal nasal discharge he had ever seen—at times he feared asphyxiation. This horse had a relapse about a week later, with exactly the same symptoms. He was reduced almost to a skeleton, but after the second attack convalescence was as rapid as the onset.

Temperatures were high, 104° to 106° F. They were taken twice daily, and it quickly became apparent that measures to try and control the condition must be taken.

He gave each of the remaining 25 horses a subcutaneous injection of streptococcal and/or staphylococcal bacterin—25·000 million *killed* bacteria—a double dose. (He remained faithful to *dead* organisms).

This treatment was very successful as all the 25 horses remained at work.

The treatment of the 12 badly affected horses was an intra-muscular injection, repeated as required, of S.U.P. 36. In all cases of high fever associated with catarrh, that drug acted exceptionally well, whether in " humans," horses, cattle, dogs or pigs (he had not tried it in cats). The peculiarity of that drug, in his experience, was that the human dose, 0·01 gram in 1 c.c.—was effective whether in large or small animals.

He thought he should mention specially a peculiarity in the symptoms of one horse—one of the two recently added to the stud. On the outside of the near hind leg, on the skin over the fetlock and shin, a large oval patch, simulating grease, appeared, which went on convalescence—or rather after vaccination, as he was one of the horses vaccinated.

Mr. F. C. Hobbs said that he had a similar experience in April, 1932 (in a small colliery with about 50 horses underground), to that described by Mr. Rees.

His first intimation was that two horses had gone down with pneumonia. Three horses had been recently purchased and sent down to work. The latter had temperatures from 102° to 106°, and he concluded that they were the source of the trouble.

The other horses had temperatures from 102° to 106°, except ten of the older ones, which had no temperature at all and were kept at work.

One of the pneumonia cases was brought up; the other one was located in a recess underground, where ventilation and temperature, were good. They both gradually recovered. He was fortunate in having a direct force of air through the stable from the downward shaft.

For many years he had asked for an isolation stable, and he now soon had what he wanted, for they anticipated great trouble.

Treatment consisted of spraying the stable with disinfectants once daily.

Temperatures were taken night and morning and he injected 1 c.c. equine bacterin every four days until he had used three doses. Three weeks elapsed before the animals were all fully at work. What struck him most was the favourable progress of the trouble, as compared with previous experience of outbreaks underground.

Mr. W. R. Watson thanked Mr. Rees for bringing forward what was to him a most interesting series of cases, and congratulated him on the success of his treatments.

Arguing from the marked benefit of formalin in mammitis, if taken early, he thought the intratracheal injection of very small quantities of that drug in solution would act as a spray of antiseptic, thrown up by the coughing of the horse, and this spray would be acting on the presumed nidus of infection, the naso-pharynx,

Mr. H. S. Robinson spoke in condemnation of the injection of irritant solutions, such as formalin, into an already inflamed trachea and lung.

Mr. J. R. Barker said that in country practice one rarely saw an outbreak of disease such as the one brought forward by Mr. Rees. During the war, however, similar trouble was experienced, especially in America, prior to the embarkation of horses and mules. In spite of close inspection, infected animals were taken on board and, acting upon the idea that an organism located in the nasal chamber was the cause of the disease, irrigations of these parts with a solution of carbolic acid, boric acid and glycerine in warm water was practised with apparent good effect.

It would seem essential in order to make a correct diagnosis, to name the invader, be it a virus or a streptococcus. Treatment, either orthodox or unorthodox, followed. He would not care to introduce formalin into the trachea of a horse, but in some cases spraying the box with a solution of formalin had a decided effect in lowering the temperature of the patient.

The Reply.

Replying to the discussion, Mr. Rees expressed gratification that his efforts had achieved their purpose of creating a discussion, and particularly that the discussion was opened by Mr. Scott—though he was disappointed that only two speakers, Mr. Scott and Mr. Hewer, dealt with the the two points on which he was hoping for a free expression of opinion, and which he mentioned in his opening remarks. Most of the speakers were apparently more interested in the control measures that were experimented with. In the main, they criticised them, and, in particular, considered the intratracheal injections, especially the formalin, to be dangerous and drastic. When one knew that formalin given intravenously was a recognised treatment in equine pneumonia — and presumably those speakers would not hesitate to inject turpentine and ac. carbol. intratracheally in the treatment of parasitic bronchitis in calves—one could hardly appreciate that line of criticism.

He had hoped that Mr. Scott would have made a definite pronouncement as to the nature of the disease, but he struck a happy medium by thinking that the elements of influenza *cum* strangles existed. That thought, however, answered in the affirmative his first point, *viz.*, that the two diseases were separate clinical entities. He could only reiterate that, in his opinion—based on the absence of those nervous and vascular symptoms which he associated with influenza, and the presence in some of the cases of the characteristic symptom of strangles—the outbreak was one of atypical strangles. Mr. Scott supported the theories he propounded, that the root cause of both diseases was a virus; but whether it was the same one in the two diseases, was at present, as Mr. Scott had stated, conjectural. Mr. Scott's contention that an animal that had had strangles during adolescence is "salted for life," was not borne out in practice. Having the management of a large stud of horses, he had opportunities of keeping records of animals for a number of years and had found many cases of horses with a recurrence of typical strangles, which pointed to absolute immunity not being conferred by one attack. On the whole, his experience bore out Mr. Scott's remarks about sera and vaccines; yet those who had been carrying on strangles research work stated that little if any benefit had been derived from the use of biological products as prophylactic measures. That rendered it unnecessary for him to reply further to those who pinned their faith to bacterins. If he had thought of autovaccination as a prophylactic measure the time taken to collect the material, and its ultimate manufacture, would, as Mr. Hewer stated, have certainly put it out of court in that outbreak, owing to its rapid spread. Mr. Scott failed to see how the intratracheal injections, having no antitoxic properties, could destroy bacteria. He was not prepared to say how the agents experimented with acted, but remained content with the results.

Mr. Golledge had evidently misunderstood what he said about prophylactic measures, when he stated that he (Mr. Rees) had apparently used so many treatments, at the same time, that he was unable to decide which had been instrumental in effecting a cure. He used two only, the iodine and formalin injections, and these on different horses. Mr. Golledge probably referred to the bacterin, serum and injection treatment of the healthy horses on the surface. It was quite true that here he could not definitely state which had the desired effect, but he was inclined to credit the injection and serum.

In reply to Mr. Hewer, as stated, he considered the disease was introduced by fresh horses acting as carriers. The purpura case developed on the eighth day, up to which time the horse apparently was making a good recovery. Concerning Mr. Hewer's question *re* private practice, in mild cases he should certainly use the iodine or formalin injection, but which for preference, his limited experience did not entitle him to state. Perhaps however, from the owner's standpoint, owing to the paroxysmal coughing following the formalin, the iodine might be better. In severe cases he should certainly also use the serum, in which he had much faith as an abortive agent, as the cost would be met by the shortening of the attack. Mr. Hewer definitely thought that the outbreak was one of strangles. The smallness of the number of typical cases of strangles was due probably to the animals being fully matured, some degree of immunity from previous attacks, and the abortive effect of the treatments. Mr. Hewer's nasal treatment, the douching of the upper air passages, though operating from a different base, was on the lines of the injections.

Mr. Hall Masheter's observations pointed to his outbreak also being one of strangles, though, on the whole, the temperatures recorded by him were higher than in his outbreak. Mr. Masheter also had undoubted faith in bacterin, to which he attributed the credit of conferring immunity on the 25 unaffected horses. He had not tried S.U.P. 36, but from what Mr. Masheter had stated it was worth noting for a trial in the future. The case he specially mentioned, of a large oval patch simulating grease on the near hind leg, was probably one of those urticarial patches occasionally seen in strangles outbreaks.

THE IDEAL PIG

At the recent conference of the National Federation of Meat Traders' Associations at Nottingham approval was given to a recommendation that fat stock show classification should provide for pigs of marketable weights and sizes, according to butchers' demands in different districts. The proposal arose out of a joint conference with the National Pig Breeders Association on raising the average standard of pigs throughout the country. It was stated that a standard of excellence for the ideal pig had been drawn up and the recommendation would be brought to the notice of fat stock societies.

TORSION OF THE BOVINE UTERUS

Reduction by Oscillation in the Standing Position

C. P. HYNES, M.R.C.V.S.
Lismore, Co. Waterford, I.F.S.

As I have practised the successful reduction of the torsioned bovine uterus, in the standing position, for the past 15 or 16 years, a note on the subject may not be out of place at this season.

I shall not go into details as to the probable causation of this mishap, further than to say that I am inclined to the belief that an exaggerated movement of the fœtus is the chief cause. This belief is based on the fact that, in the majority of cases met with, the calf was found either lying on its side or back, according to the extent of the displacement, so that one would naturally assume that the calf actually kicks the uterus over with itself in a movement of fœtal friskiness—a pre-natal gambol—in contradistinction to the uterus turning, *per se*.

In these notes reference is confined to partial torsion—fortunately by far the most common form—and the condition, when present, is so well known and manifest, after exploration, together with associated symptoms, that description is hardly necessary. It is important, however, that the true direction of the displacement should be carefully determined before operative measures for its reduction are commenced.

For descriptive purposes I shall deal with the *modus operandi* for reduction of a torsion to the right. One's first endeavour must be the introduction of the hand into the uterus, for on this depends the success of the operation. Patience and perseverance for a little while will accomplish a good deal, following the direction of the twist, gently forcing forwards and dilating, with pauses between the efforts, as the torsioned neck exerts a tiring effect on the hand and wrist. Unless the twist is very acute and the case is not seen at the right time, one will generally be rewarded by the hand eventually slipping through. The membranes and calf are then immediately felt, and it may be noted that the fœtus has become displaced as already described. I avoid rupturing the membranes, if possible, and slip the hand well forward between the fœtus and the right uterine wall; at the same time I try to get under some suitable or solid portion of the calf, so that the palm of the hand can be used for swinging or lifting purposes, or a grip can be taken with a similar end in view. Previously I instruct my assistants to stand one at either side of the cow and to use their hands or fists over the uterine region—the one on the left digs or pushes downwards, the one on the right upwards. These movements or efforts of the assistants are to be synchronised with the operator's efforts inside the womb at given signals, the attention of the assistants being strictly focussed so that their efforts may not be mistimed. The operator must now initiate swinging movements on the fœtus, first raising it upwards to the left, allowing it to swing back to the original position (even encouraging it to drop down lower) and at the end of its motion to the right to lift sharply again to the left. One's whole idea should be to set up a good swinging or oscillating movement of the calf and uterus, and it is surprising what can be done by well-timed efforts, for gradually and distinctly a greater range of movement in both directions can be felt. When one finds a fairly good oscillation has been established a peak effort should be made, and if successful, the whole uterus and calf will be felt to make a distinct turn to the left: the torsion will suddenly have become reduced and the calf will have assumed a fairly normal presentation. There is a little knack in initiating and increasing this utero-fœtal oscillation but it is easily acquired.

I cannot say for certain if the assistants are of real importance, as I have repeatedly reduced twists in the standing position without any help whatever—"brawn," you will say; perhaps there may be something in that, yet I have no doubt that a few intelligent assistants, timing their efforts nicely, can be of considerable help.

To undertake reduction of a torsion to the left, the left arm is used and similar methods employed, but movements must of course be in the opposite direction, that is, from left to right.

On occasions, which I find rare, it may not be possible to introduce the hand into the uterus, either through the twist being more acute than ordinary, or the case being met with at an unsuitable time. I may have to cast and tie up in this case, but I do not roll the patient over and over. I have had more success by placing the cow on her back—having secured the legs loosely so that they stand straight up and not too close together—and then sharply turning the cow from side to side or trying sharp, short, rocking movements. If I find the hand can be introduced through the os during these movements, I allow the cow to stand, and reduce in the standing position, unless that happy event has occurred during the movements in the prone position.

I was first encouraged to try this half-rolling method from an experience I had in the bad old rolling-over-and-over days, and which, at the risk of being considered tedious, I am tempted to relate. The owner was an old Scotchman, who farmed at the time in this unfortunate country of forensic froth and Fiannas. He came in to say "one of his coos had a bad colic; she was kickin' at her belly an' up an' doon all nicht."

These symptoms were still apparent when I arrived, so I took Sandy's diagnosis for granted and was about to administer an anodyne *placebo* when the thought struck me to enquire when she was due to calf. "Her time was up," I was informed (in fact, it was indeed nearly up, as after-events proved). I made, therefore, a hurried examination through the vagina and discovered, to my dismay, a torsion of the womb. There was a fine sloping field near at hand and the cow was duly cast and trussed at the high end and the depressing rolling operations began. That cow was beautifully and sharply rolled, first from one side and then from another, with constant and heroic manual help inside, but nothing happened. A final roll was given at the end of the field, to finish with the cow on her back and her legs against the bank. There was no more field and no more hope, so we sent to the house for a gun.

In the meantime, the rope hobbles were undone (the cow was still lying on her back) and the unfortunate bovine stuck her legs straight up in the air; these we seized and turned her sharply and suddenly onto her side. By now the gun had arrived and the old MacTavish sadly inserted two shells, while I cleansed my benumbed arms and put on my outer garments.

Before we proceeded with the execution, however, I noticed that a brown slimy discharge was now beginning to issue rather copiously from the vulva. I held up a staying hand, again disrobed and bared my arm—the miracle had happened; the torsion had vanished, the os was open and a live calf was being rapidly propelled into the world. I shall always remember that old Scotchman's soliloquy, as he thoughtfully opened the breach and extracted the cartridges, while painful visions of that cemetery in the spinney faded from his troubled mind and mine: "Weel, 'twas a near squick surely, and after all yon rollin' and then she gets a' richt when she's floppid doon on her side to be shot. I'm domned but them twosts mun be fickle things."

I thoroughly agree with that exile from the Hebrides, for these "twosts" are sometimes "dom fickle things."

A Cumberland farmer, William Awde, Campfield, Bowness-on-Solway, was fined £10 and costs by the county magistrates at Carlisle recently for failing to isolate a light roan shorthorn cow suffering from tuberculosis after he had had notice to do so by a county veterinary inspector.

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The third annual report has just been published of the Executive Council of the Imperial Agricultural Bureaux. There are now eight bureaux, which collect, collate and disseminate information on research in soil science, animal health, nutrition and genetics, plant genetics, fruit production and parasitology, and the Council issues printed journals. During 1931-32 the revenue from the Governments of the Empire was £20,194, and the net expenditure was £17,501.

Abstracts

[Plant Poisoning in Man and Animals. Roy. Soc. Med. Discussion. *Lancet.* 1933. *1.* ix. Pp. 471-2.]

Mr. W. Horner Andrews, in opening a joint discussion on this subject by the Sections of Comparative Medicine and of Therapeutics and Pharmacology, of the Royal Society of Medicine, attributed the comparative rarity of plant poisoning of cattle in this country to the practical eradication of poisonous plants, by long-continued cultivation, from all but the hedgerows. Many reputed toxic weeds were not as toxic as they were thought to be and probably many other plants were harmful, though not recognised as being such.

Mr. Andrews dealt with the difficulties, familiar to veterinarians, presented in those cases, as in poisoning by *Senecio latifolia*, in which there is a considerable latent period between the ingestion of the plant and the exhibition of toxic symptoms. He referred also to a South African plant which contained two poisonous principles, one a cyanogenetic glucoside capable of killing a beast in an hour, and one a toxic protein, which was liable to set up, three days later, acute gastro-enteritis in the animal if it survived poisoning by the hydrocyanic acid.

Sir William Willcox drew attention to the different degree of toxicity manifested by the same poison in different animals, instancing the insensitiveness of rabbits to belladonna or to aconite and the great tolerance to strychnine shown by the horse and ox, compared with that shown by man; on the other hand, the frog was so sensitive to strychnine that the physiological test of tetanic convulsions in a frog was much more reliable than even the very delicate chemical tests for this alkaloid.

Dr. Paul Haas drew attention to the remarkable differences existing in the alkaloid content of closely-related species of the same family, and to the effects of climate or external conditions upon the same plant grown in different parts of the world.

Mr. J. T. Edwards gave an account of the use in India of *Abrus precatorius* for the criminal poisoning of cattle for the purpose of obtaining the hides.

W. B.

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[Maladies Common to Man and Animals. Verge, M. *Revue Générale de Médecine Véterinaire.* February 15th, 1933. (38 refs.)]

E. rhusiopathiæ has been reported present in animals, birds and man. Rosenbach, in 1884, called the disease in man erysipeloid, and up to 1926 about 100-150 cases were reported as a

result of infection from pigs. Since 1926, many cases have been noted in persons employed in cleaning certain varieties of fresh-water fish. Outbreaks have occurred in Odessa, Germany and the eastern shores of U.S.A. It would appear that erysipeloid of piscine origin is identical in its clinical manifestations and in its behaviour with regard to specific treatment with the erysipeloid of porcine origin. Also, the former is much more widespread.

The author divides the types of the disease in man into three: cutaneous, intestinal and generalised. Death does occasionally occur and survivors may suffer from endocarditis or joint affections as in chronic erysipelas of the pig. Prognosis is usually favorable.

Infection is summarised as coming from laboratory accidents, wound infections from handling pigs affected with erysipelas, and from the handling of crustaceans and fish. No cases of erysipeloid of ovine, bovine or avian origin have ever been reported, nor has transmission from man to man been encountered. The organism found in outbreaks of piscine origin is particularly virulent—0·0001 to 0·00001 c.cs. 48 hours culture in Martin's broth kills the pigeon in four days.

The organism has never been demonstrated in fish or crustaceans. The author suggests that it may lead a saprophytic existence in the mucus which surrounds the fish.

Certain forms clear up spontaneously. Treatment usually adopted is the application of antiseptic compresses and the injection of antiserum.

D. W. M.

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[Diseases of the Turbinate Bones in the Horse. Dr. Wehrwein. *Zeitschrift für Veterinärkunde.* No. 11. November, 1930. pp. 414-412.]

According to Frick, the pathological conditions occurring in the turbinate bones are:—

(1) Chronic hyperplastic inflammation, accompanied by swelling, thickening of the mucous membrane and lamellæ and fœtid discharge.

(2) Mucoid degeneration, occurring in young horses. The wall of the turbinate bones is changed to a fibrous structure containing discrete islands of bone. Discharge muco-serous.

(3) Necrosis, partial or total, accompanied by characteristic smell and discharge.

(4) Obliteration by sarcomatous or similar growths.

Treatment consists in surgical removal of the affected bone, after having first performed tracheotomy. Subsequent treatment is directed towards preventing excessive granulation.

Of the cases described by the author, the first recovered uneventfully three weeks after extirpation of the right inferior turbinate. The second succumbed to septic pneumonia following removal of the right superior bone, the operation having been accompanied by profuse hæmorrhage. The third recovered eight weeks after excision of both left turbinates, excessive granulation having followed. The fourth also showed excessive granulation after removal of the left superior, and took eight weeks to heal. The fifth case was destroyed when it was established that three out of the four bones were involved. The sixth case showed degeneration of all four turbinates and was destroyed. The seventh, showing enlargement and induration of the right inferior bone, could not be spared from work and was treated by irrigation with iodine solution. The eighth, affected bi-laterally, was destroyed. The ninth case recovered five weeks after excision of the left inferior turbinate.

Diagnosis of these conditions presents some difficulty and a thorough examination is necessary, including inspection, palpation and percussion. Examination of the buccal cavity is important and trephining has a diagnostic as well as a therapeutic, value.

Extirpation of the turbinate bones should always be carried out, despite undeniable difficulties, in the absence of a definite reason to the contrary. At the same time, prognosis should be guarded.

H. H.

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[A Case of Entero-renal Hæmoglobinuria in the Dog, with Recovery. Unglas, G. *Rév. Gén. Méd. Vét.* No. 482. 77-78.]

The subject was a five-year-old dog which had been treated by the owner a year previously for worms and which had been ailing since then. When seen by the author, it was found to be prostrate; there was complete loss of appetite; the urine was thick and crimson in colour, containing hæmoglobin but no clots of blood.

The diagnosis made was entero-renal hæmoglobinuria, probably due to infection with coliform bacteria.

The treatment adopted was the administration of irradiated colloidal silver *per os* in the morning and evening. In two days the urine became clear and the dog recovered its appetite. The author thinks that the treatment for worms had irritated the intestine, thus leading to infection with intestinal bacteria.

C. McG.

In addition to cart horse subsidies, Northumberland Agricultural Society has agreed to give practical support to the breeding of light horses and ponies in the dales country. The North Northumberland Light Horse Breeding Society has come into existence in consequence of the withdrawal of War Office grants.

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A Clean Milk Bill for the Irish Free State has been drafted and is now undergoing detailed examination by the Ministries concerned, preparatory to being submitted to the Free State Parliament.

XUM

Report

CITY OF JOHANNESBURG

REPORT OF THE DIRECTOR OF THE ABATTOIR AND LIVESTOCK MARKET DEPARTMENT, 1931-32

This report reveals the great amount of commercial and public health work carried out under the supervision of the Director, Colonel J. Irvine-Smith, C.B.E., V.D., J.P., M.R.C.V.S.

The turnover of the livestock market was approximately £2,262,000. The total number of animals passing through these markets was 1,409,807 and the total number of animals slaughtered in the abattoir was 676,909, comprising 107,699 cattle, 479,642 sheep, 12,585 calves and 76,983 pigs. The total is the highest yet reached since the opening of the abattoir.

Condemnation statistics show that 57 bulls, 659 oxen, 430 cows, 173 sheep, 53 calves and 2,279 pigs were totally condemned, together with a large amount of offal. The diseases affecting the condemned meat and offal are very similar to those met with in this country, except that tuberculosis, which is the chief cause of condemnation with us, is secondary to dropsy, *Cysticercus bovis* infestation and to extensive bruising in cattle.

The total amount of meat seized and condemned was approximately 712¼ tons, and a comparative table is given showing the weights condemned year by year since 1908 and demonstrating the value of concentration of slaughter.

An Insurance Fund is available for those desirous of insuring their animals against condemnation after slaughter at the abattoir.

The number of animals that passed through the Quarantine Market was 28,609.

Cattle and pigs are slaughtered in accordance with the conditions laid down in the Humane Slaughter Bill.

Other portions of the report deal with measures taken to prevent the spread of foot-and-mouth disease, the veterinary treatment of animals and inspection of dairy cows.

The average number of animals in the service of the City Council was 1,668 mules, 22 horses, and 40 oxen. It is mentioned that lameness, sore backs and knee abrasions were the most prevalent conditions met with.

Pneumonia was the cause of death of a number of animals at the zoo and worm infestations were the most common disorder met with.

Under the veterinary examination of dairy cows, the report states: "Dairy inspection during the year has revealed that clinical cases of open tuberculosis have increased, while udder cases have decreased slightly. Udder affections associated with streptococci have been the most prevalent form of mastitis. The general hygiene of the dairies shows improvement." The report states that 8,159 cows were examined, three cases of udder tuberculosis being found. A list of other diseases encountered is also given.

The report shows progress in Veterinary Public Health work and evidence of the successful working of an abattoir. The report can also be recommended for the information of those interested in the concentration of slaughter and the meat trades.

W. T.

N.V.M.A. Divisional Reports

NORTH WALES DIVISION

PRESIDENT'S ADDRESS AT BANGOR

A meeting of the North Wales Division, N.V.M.A., was held on Friday, February 3rd, 1933, at the British Hotel, Bangor. The President, Mr. R. L. Lewis, occupied the chair and there were also present Messrs. Burrows, Cane, Cartwright, H. V. Hughes, Llewellyn Jones, W. O. Jones, Dr. Montgomerie, Messrs. Roberts, W. T. Rowlands, Savage, H. Williams, and Wynne. Mr. F. Booth, junr., was a visitor.

Apologies for absence were received from Messrs. F. Booth, senr., Edwards, Principal Sir F. Hobday and Professor Share-Jones.

The minutes of the previous meeting were read and were confirmed.

The Secretary, on behalf of the meeting, extended a welcome to the newly-elected President (Mr. R. L. Lewis) and to Mr. Wynne who, he knew, they were glad to see had recovered from his accident.

PRESIDENTIAL ADDRESS

Mr. R. L. Lewis then rose to give his Address from the Chair, and said, in the course of his observations, that he desired to thank the members very much for the honour they had done him in electing him their President for the current year. He could assure them that it should be his earnest endeavour to justify the confidence which they had reposed in him, and he looked forward to their loyal support.

The President continued: I have been caused some degree of apprehension by the realisation of the greater importance which the position of President carries with it during this year of grace, 1933, which marks a very important epoch in the history of this Division. I refer to the decision of the N.V.M.A. to hold its annual Congress at Llandudno in September next, an honour to ourselves and to the province of North Wales.

Having heard before-hand that Mr. Burrow was going to read a paper to us this afternoon, and as we should devote as much time as possible to the discussion on it, I have curtailed my

Address somewhat, and I would crave your indulgence for its brevity and the superficial manner in which I have touched upon the subjects mentioned therein.

An address usually takes the form of a review of events of interest which have taken place within recent years, but those of you who read the *Veterinary Record* religiously every week will appreciate the fact that most of the ground in that respect has been covered by contributions and addresses by members of our profession and others, and it makes my task of finding something to talk about all the more difficult.

However, in the forefront of our discussions within the last two years or so, has been the subject of Veterinary Advisory Officers, and as far as we are concerned, that subject must still claim our attention, and we must not rest until the scheme is modified in such a way as to be acceptable to the general practitioner. I would emphasise the fact, and it has been repeatedly emphasised by others, that the matter is not a personal one, and as far as the North Wales University is concerned, we have nothing but admiration for Dr. Montgomerie, for the contributions he has made to veterinary science, and that our quarrel is not with him but with the scheme under which he is employed. Personally, I would welcome a scheme in which the Veterinary Advisory Officer might co-operate with the general practitioner in matters relating to the investigation and eradication of diseases among livestock, but not one which allows the Veterinary Advisory Officer to act independently of the practitioner and deal with the client direct. I do not know what progress this scheme has made up to date, or what benefit the farmers have derived from it, and it would be interesting to see a report, if there is one published, from which one might be able to gauge the amount of harm done both to the prestige and livelihood of the practitioners in whose areas the scheme is operated.

Almost analogous to the officer working under this scheme is the whole-time County Veterinary Officer and the municipal V.O., and to give you an idea of their activities I would refer you to last week's *Veterinary Record*, in which appears a resolution submitted by the Council of the R.C.V.S. to the Birmingham Corporation, expressing its disapproval of the latter's scheme under which tuberculin testing is carried out. Although these various schemes are not altogether satisfactory from the point of view of the general practitioner, it must be conceded that the increasing number of appointments of Veterinary Officers by public authorities goes to prove that the veterinary surgeon is rapidly attaining to that position, in matters of public health and administration, which is rightly his. Once having reached that position, our efforts to educate public opinion in our favour must not relax for one moment, and it is up to us not only to maintain it but to improve it.

Perhaps a personal note might not be out of place here. I refer to the honour which has been bestowed upon our profession by H.M. the King, in conferring a Knighthood on one of the most prominent and distinguished members of our profession, *viz.*, Professor Hobday, to whom, I feel sure, we tender our heartiest congratulations and good wishes. (Applause.)

And now to revert to the subject of our position in public health. In such important matters as animal hygiene, hygiene of milk production and distribution, knowledge and control of diseases communicable to man, who, may I ask, is more competent to give the nation better service than the veterinary surgeon, who, by virtue of his specialised training, is best equipped for the task? In meat inspection, for instance, he has far greater claims to expert knowledge than the majority of meat inspectors who are not on our register, for he has been trained not only to recognise what is fit and what is unfit for human consumption, but to recognise the state of the animal's health prior to slaughter. But there are still local authorities who, in their blissful ignorance, consider that the only qualification necessary for this kind of work is for the inspector to obtain a certificate to the effect that he has attended a " tabloid " course of lectures. In the rural districts, where inspection is difficult owing to distances and odd times of slaughtering, I think this difficulty might be overcome by employing the private practitioner, who could carry out the duties quite satisfactorily while on his rounds in the country.

References have been made from time to time concerning the prospects of the veterinary profession, and even " Old Moore " himself could not have been more profuse and optimistic in his prophecies than some of our own prophets of the past. I refrain from indulging in that rather dangerous and uncertain pastime of forecasting, but I cannot dismiss the subject without making some slight observations on the position in which we find ourselves to-day, and what there is immediately in store for us. However, I have promised to be brief, and I must bear this in mind. The old adage that " what we lose on the swings we gain on the roundabouts " is just as true to-day as ever, and it is none the less true in its application to ourselves. And so we find that with the decline of horse practice we have been obliged to concentrate our energies in other directions for a livelihood.

When I was at college, the horse was taken as the standard of our learning in Anatomy, Physiology, Medicine and Surgery, and the other animals studied in comparison, but one might substitute the cow as the standard nowadays,

in view of the greater prominence which she enjoys in the sphere of public health, and the blame she has to bear for the transmission of some of the diseases to which man is heir; also for her usefulness in providing us with meat and milk. I have no statistics to guide me, but I would venture to say that the bovine, for the reasons mentioned above, together with the scientific advancement achieved in breeding and in feeding both for the production of meat and milk, stands pre-eminently as the most important subject of our attention at the present day, and the horse is relegated to second place. This statement may raise a storm of indignation and protest from among horse lovers, but I claim to be a horse lover myself, and I am merely viewing the position through the eyes of a country practitioner who has observed the decline in horse practice, particularly since the Great War.

During my time, dog practice has increased by leaps and bounds, and the veterinary surgeon of to-day is far more skilled in that branch than were his predecessors of, say, twenty years ago.

X-raying of the smaller animals has now become a commonplace feature as an aid to diagnosis, and the introduction of the portable X-ray apparatus has opened up a new field for that kind of work. Treatment of certain ailments by the use of artificial sunlight has also established itself in great favour amongst canine practitioners.

Then again, there is the study of poultry diseases, their treatment, and methods of eradication. This, I venture to suggest, offers great scope in the search for fresh fields for our activities, and an opportunity here presents itself, not only to the private practitioner, but to the Veterinary Colleges to devote more attention to the subject, and to take up the work seriously, lest yet another opportunity is given to the quack to deprive us of work which rightly belongs to us. .

Mention of quacks reminds me that a scheme is under consideration to combat the activities of these persons, by permitting advertising by members of our profession. This, I consider, is a retrograde step, and one likely to jeopardise our prestige and lower our professional status. Such an idea would be unthinkable in our sister profession, Medicine, and surely the menace of quackery is a far greater one in that profession than in ours.

Some time ago this Division had the privilege of hearing Professor Share-Jones discoursing on a scheme of National Animal Health Insurance, and whilst I do not propose to discuss in detail such a scheme, I cannot help thinking that an idea of this kind might be a very effective weapon in putting down quackery. Every veterinary surgeon would then be empanelled, with the result that his services would be more eagerly sought after, and there would no longer be any demand for the quack.

A greater menace, perhaps, to the country practitioner, is the vendor of patent medicines. This individual makes a personal call at every farmhouse in a district, and is so persistent and persuasive that the farmer buys his wares if only to get rid of him. One farmer had the impertinence to ask me if I would purchase from him a chest of animal stock remedies which he had bought from one of these merchants, suggesting that, as he only bought under great persuasion, I might find them of greater use than he. I need hardly tell you what my reply to him was.

On the other hand, I regret to say that I have seen labels used by veterinary surgeons which are no less conspicuous in their style and appearance than those found on the bottles and packets of these quack remedies, and I can remember an instance where the words " Beware of Imitations " were printed across a colic drink label of a practitioner. Comment is unnecessary, and so, if we are to be tolerant of the " enemy within our gates," how on earth can we expect to deal effectively with him who is without?

I will conclude with a renewed expression of apology for my very disjointed and incomplete survey.

Mr. Llewelyn Jones proposed that a hearty vote of thanks be accorded the President for his valuable Address. This was seconded by Mr. Roberts and supported by Mr. Cane who, speaking as the retiring President, wished Mr. Lewis a happy and successful term of office. The vote was carried amid applause and the President, in responding, expressed his thanks to the members for their attentive hearing and promised to endeavour to carry out the duties of his office as efficiently as he could.

Correspondence.—The Hon Secretary proposed and Mr. Llewelyn Jones seconded that the Society pay the usual subscription of £1 1s. to the National Horse Association. This was agreed.

The Hon. Secretary intimated that Mr. L. W. Wynn Lloyd had informed him of his decision to resign from the Division. On the proposition of Mr. Llewelyn Jones, seconded by Mr. W. O. Jones, it was agreed that the Hon. Secretary be instructed to inform Mr. Lloyd that his resignation be accepted with regret.

The question of the representation of the Division on the Congress Committee was considered and it was agreed that the Council should meet after the meeting and discuss the matter with the representatives already appointed.

A letter from the Royal Sanitary Institute was read, inviting the Society to elect a representative to the Blackpool Congress. It was agreed that Professor Share-Jones be invited to represent the Society.

The election of a Divisional Representative of the *Veterinary Record* was considered, following the reading of a letter from the Editorial Representative. It was agreed that the President of the Society should act as Divisional Representative during his year of office.

A letter was read from the Council of the N.V.M.A. intimating that they could not see their way clear to take further steps in the matter of the correspondence between the Ministry of Agriculture and Professor White, Bangor. It was agreed that the letter lie on the table.

Fellowship.—Mr. Cartwright proposed and Mr. Wynne seconded, that Major J. Storrar, Rhyl, be nominated a Fellow.

Mr. J. Booth, junr., having been nominated at the previous meeting, was unanimously elected a Fellow of the Society.

Paper.—The President then called upon Mr. Burrow, of Birkenhead, to present his paper on "The Examination of Dairy Herds." He knew that he was expressing the views of all present when he said that he was very glad to see Mr. Burrow with them that day. His action in agreeing to give them a paper was all the more commendable since he was a new member of the Division, and he hoped it would be emulated by others.

Mr. Burrow, on rising to address the meeting, said he first of all wished to say how happy he was to be present, as a new member of the Division. He thanked the President for his kind welcome.

[Mr. Burrow's paper is reproduced, together with a report of the ensuing discussion, at the commencement of this issue.—Ed. *V.R.*]

Mr. Wynne, in proposing a vote of thanks, said that Mr. Burrow had proved himself to be the master of his subject. They had had a very interesting paper, a good discussion and an illuminating reply, and he felt sure they were all indebted to Mr. Burrow.

Mr. Hugh Williams seconded the motion, which was carried amid applause, and Mr. Burrow responded briefly, expressing his pleasure in noting the interest displayed by the members in his efforts. He was very pleased to be with them and looked forward to enjoying their company as often as his duties permitted.

This terminated the meeting.

Howel V. Hughes, *Hon. Secretary.*

Owing to the prevalence of sheep stealing on Dartmoor, the Dartmoor Scotch Sheep Breeders' Association is offering, until further notice, to pay £5 to anyone who can give such evidence as will lead to the conviction of persons found stealing sheep owned by the Association's members. Where five or more sheep are concerned the reward is to be increased to £20.

MID-WEST AND SOUTH WALES DIVISION*

ANNUAL MEETING AT BRISTOL

The Annual Meeting of this Division was held at the Grand Hotel, Bristol, on Friday, January 20th, 1933.

The retiring President (Mr. J. R. Hewer) occupied the Chair, and there were also present: Messrs. G. E. Henson, Edwin Sayer, W. R. Watson, S. V. Golledge, T. Margarson, H. S. Robinson, C. Digby Watkins, J. R. Barker, C. J. Pugh, J. Pugh, B. H. Gale, Cyril R. Golledge, J. W. Baxter, W. D. Rees, F. C. Hobbs, J. C. S. Powell, J. J. Aveston, E. C. Bovett, W. M. Scott, and C. E. Perry, Hon. Secretary.

At the commencement of the proceedings the retiring President, Mr. J. R. Hewer, remarked that there were two things he desired to do before they started the business of the meeting, *viz.*, firstly, to wish all the members good luck and prosperity in 1933: he hoped they were all getting a ready response to their recently issued accounts (laughter); and secondly, to express the pleasure they all felt at the appearance of one of their Hon. Associates' names in the New Year Honours' List—he referred to His Majesty's bestowal of the honour of Knighthood on Sir Frederick Hobday, in recognition of the great work he had done, and was doing, for the Royal Veterinary College. Sir Frederick was well known to them all—to some he had lectured; others he had examined (and perhaps ploughed) and even those who had not had this privilege had seen his surgical demonstrations, and heard, or read his discourses. They all knew him as a jolly good fellow—ever ready to help every one—and of the great zest he always had and showed for the good of the profession.

The Royal Veterinary College was in process of building, and it would be a perpetual memory to his efforts. Although he was a very busy man, his energy seemed to have no limits.

He understood that the Secretary had written congratulating Sir Frederick on behalf of the Mid-West and South Wales Society, and was sure they all endorsed his action. (Applause.)

The President's motion that the action of the Hon. Secretary be endorsed was seconded by Mr. W. M. Scott, who said that he desired to associate himself with everything the chairman had said in regard to the honour His Majesty the King had conferred on his (Mr. Scott's) old friend, Sir Frederick Hobday—a distinguished honorary member of that Division. He questioned if any member of the profession, past or present, had greater claim to the title than had Sir Frederick (Hear, hear). By his industry and driving force and skill he had made for himself a name which was world-wide. Nevertheless, when many would have been content to rest upon their laurels

* Received for publication March 14th.

and "take life easy," when the call came they found him taking on the biggest undertaking of his life—*i.e.*, the collection of funds to rebuild his derelict *alma mater*. And they all knew the uphill struggle he had had to contend with and how his efforts were being crowned with success—due largely, he thought, to the fact that Sir Frederick seemed to possess a special flair for extracting money from people's pockets—and in such a way that the giver scarcely knew he gave until he had given. He was sure they all wished him health and strength to carry on, and complete the great work he had undertaken—which, when completed, would remain a lasting monument to his enthusiasm and zeal for all time. (Applause.)

The motion was carried with acclamation.

The minutes of the last Annual Meeting having been published in the *Record*, were, on the proposition of Mr. Scott, seconded by Mr. Rees, taken as read. Accordingly they were confirmed and signed.

Correspondence.—(1) Correspondence was read from the N.V.M.A., and referred to the Council for consideration.

(2) From the Secretary of the Victoria Veterinary Benevolent Fund, gratefully acknowledging the receipt of the contents of the collecting box for the year—£5—this being the largest amount sent up in one year from this Division.

(3) A second letter from the Secretary of the above Fund, acknowledging the receipt of £100 from the Benevolent Fund of the Mid-West Division, being an Adams Memorial Donation in memory of the late Mr. A. S. Adams, of Dursley.

(4) From Mr. A. E. Roberts, a past President and one of the oldest members, resigning membership in consequence of his having left the district. Mr. Roberts' resignation was accepted with regret, and on the proposition of the Secretary, seconded by Mr. Scott, Mr. Roberts was unanimously elected an Honorary Associate of the Society.

(5) From Mr. Norris, also resigning owing to having left the district. Mr. Norris's resignation was accepted with regret.

(6) From the Secretaries of the Royal Sanitary Institute, intimating that the next Congress would be held at Blackpool, and asking for a delegate from the "Mid-West." It was agreed that the President or his nominee represent the Division.

(7) Apologies for absence were received from Sir Frederick Hobday, Messrs Hall Masheter, R. W. Hall, R. Moore, Captain Austin, and Dr. Colston Williams.

Hon. Treasurer's Report

Lieutenant-Colonel Henson presented his reports, as follows:—

I. *Benevolent Fund.*—This showed a balance of £30 14s. 2d. in hand, together with three £100 2½ per cent. Consols.

II. *General Fund.*—This showed a balance in hand of £72 12s. 8d., together with one £100 2½ per cent. Consols. These reports were considered very satisfactory, and, on the proposition of the Secretary, seconded by Mr. Scott, were adopted.

The above accounts had been kindly audited by Messrs. Watson and Powell.

Arising out of this report, Mr. Scott, commenting that the Division required members more than money, proposed that the entrance fee of 10s. 6d. be abolished. This was seconded and carried.

Hon. Secretary's Report

Mr. C. E. Perry, presented his report for the year 1932, as follows:—

"The present membership is 84, including nine Honorary Associates. During the year we have added five new members, and lost three. We have had three resignations through removal, and two members have fallen out under Rule 13.

"During the year we have held four general meetings and four council meetings, the average attendance being 26 at general, and 10 at council meetings. At the Annual Meeting held at Bristol, in January, we are very much indebted to Colonel Simpson, President of the N.V.M.A., who very kindly came down and explained the scheme operated jointly by the N.V.M.A. and the R.S.P.C.A., for the free treatment of sick animals of poor people. As far as Bristol is concerned, this is an accomplished fact, and is now on a practical working basis. Over 1,000 animals have received treatment since the Dispensary was opened in May last.

"At the Bath meeting in April, one of our own members, Mr. C. J. Pugh, of Chepstow, gave us a most exhausitve and practical paper on 'Poisonous Plants met with in Veterinary Practice.' At Cardiff, in October, we were indebted to Messrs. Golledge and Watson for bringing forward interesting clinical cases for discussion, and last and not least, our Summer Meeting was held at Shinfield, by the kind invitation of Mr. Macintosh, at the National Institution of Research in Dairying, where a most instructive and interesting afternoon was spent."

Election of Officers, 1933

President.—The retiring President, Mr. Hewer, said that he had very great pleasure in proposing that Mr. J. R. Barker be President for the ensuing year. This was seconded by the Secretary and carried with aclamation.

Address from the Chair

Mr. Barker then took the Chair and said:—

I should like to thank you, Mr. Hewer, for the kind way in which you have proposed my name for this office, and you, gentlemen, for the way in which you have received it. I regard the position to which you have just elected me as one

of trust and it will be my earnest endeavour to hand over the affairs of this Division to my successor in an even better condition, if possible, than they are now. That is not to say that this Division is in a bad way; on the contrary, as you well know, I have been privileged to visit several other divisions and have found this, to which I owe allegiance, second to none.

I have always had a great admiration for a good physician, and would rate him in front of a good surgeon. Consequently, in so far as I am able, I should like to give the discussions at our meetings during the forthcoming year a bias towards what I might term the physician side of our work.

The practice of veterinary medicine requires that one should draw upon all branches of science for the furtherance of our art. In this respect I would draw your attention for a moment to the essential unity of the universe. Macadam has stated that the concentration of the inorganic salts of calcium, magnesium, sodium and potassium in the human blood plasma, when stated in terms of sodium chloride, is almost identical with the concentration in the ocean. This may be taken as an indication of whence we came. However that may be, we as clinicians have not been slow to exploit the therapeutic properties of the inorganic salts of these four metals.

Disease, literally, means lack of ease, but more recently my cases would suggest that interference with the energy of the patient would be a good definition. It is strange that in those cases where energy interference is a predominant symptom the concentration of one or other of these inorganic salts is altered. In cows with milk fever, which culminates in an almost total loss of energy, one finds a lack of calcium in the blood plasma. In tetany leading to convulsions, where energy seems to have gone out of control, one finds a lack of plasma magnesium. You are all well acquainted with the therapeutic properties of sodium chloride, potassium iodide and latterly of calcium chloride and magnesium sulphate. Perhaps I have said enough to show that our interests can never be sectional.

This Division is blessed with a good number of keen young men, and it is pleasant to know that I have their support. All organisations in any society are dependent upon fresh recruits and I hope that this Division will continue to attract all the young men in its area. I fancy that, should our discussions have a distinct clinical bearing, this would be achieved.

Vice-Presidents: Messrs. Hewer, Henson, Masheter and Powell.

Hon. Treasurer: Lieut.-Colonel Henson (re-elected).

Hon. Secretary: Mr. C. E. Perry (re-elected).

Auditors: Messrs. Powell and Watson.

Representatives to Council, N.V.M.A.: Messrs. Hewer, Coleman, Barker, and (*ex-officio*) the Hon. Secretary.

Representative on the Victoria Veterinary Benevolent Fund: Mr. W. D. Rees.

Council.—The following were elected: Messrs. Aveston, Hewer, Bovett, Coleman, Hall Masheter, Moore, Margarson, Powell, Rees, Scott, Watson, C. J. Pugh, C. R. Golledge, and Robinson, together with the President, Treasurer and Secretary.

Paper.—The Chairman now called upon Mr. Rees to present his contribution entitled "Some Comments on a Recent Outbreak amongst Pit Horses." This was heard with much interest and appreciation, and was informatively discussed.

[Mr. Rees's address, and a report of the ensuing discussion and of his reply, are reproduced in the Clinical Section of this issue.—Ed. *V.R.*]

Votes of Thanks.—At the close of the meeting the President (Mr. J. R. Barker) proposed a hearty vote of thanks to Mr. Rees for his paper. This was seconded by Mr. W. M. Scott and carried with acclamation.

Mr. Barker was cordially thanked for his Presidential Address, on the proposition of the Secretary, seconded by Mr. Hewer.

C. E. Perry, *Hon. Secretary.*

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DUMFRIES AND GALLOWAY DIVISION*

ANNUAL MEETING AT DUMFRIES

The Annual General Meeting of the above Division was held at the Station Hotel, Dumfries, on December 6th, 1932.

The President, Mr. W. T. Hewetson, occupied the Chair, and the following members were also present: Messrs. G. Allan, A. Edgar, G. W. Davidson, A. G. Kennedy, N. McAlister, W. McKenzie, A. G. Milligan, G. A. Sangster, R. Craig Robinson, A. Young and F. A. Davidson (Hon. Secretary). *Visitors*: Captain T. M. Doyle, Miss Burnett, Mr. W. G. Robinson and Dr. E. Armstrong.

Apologies for absence were received from Messrs. F. Croudace, R. Simpson and O. Stinson.

The minutes were taken as read, as published in the *Veterinary Record.*

Membership.—Miss E. Burnett, Calder Bridge, nominated at the last meeting, was elected a member of the Division, on the proposal of the President, seconded by Mr. Edgar.

Mr. William G. Robinson, Carlisle, was nominated as a member by Mr. A. Young, seconded by Mr. A. J. Milligan.

Correspondence.—(1) Letters from the General Secretary of the N.V.M.A. were read and discussed and the Secretary of the Division instructed to send suitable replies.

* Received for publication March 15th.

(2) Members had drawn attention to the circular letter and questionnaire circulated amongst the members of the profession in Scotland by the Scottish Committee on Contagious Bovine Abortion. After considerable discussion the Secretary of the Division was instructed to forward the following resolutions to the Secretary of the Scottish Branch of the N.V.M.A. and also copies to the Secretary of the above Committee:

"Members of the Dumfries and Galloway Division of the N.V.M.A. have considered the circular letter and questionnaire circulated amongst the veterinary profession in Scotland by the Scottish Committee on Contagious Bovine Abortion and are of opinion:—

(1) "that the members should not reply to the questionnaire until they are given some indication as to what the future programme of the committee is to be and what use is likely to be made of the information supplied by the veterinary practitioners";

(2) "that the personnel of the committee is unsatisfactory, as there should have been a better representation of the general veterinary practitioners and county veterinary inspectors, who are in close touch with the practical problems in the field and, therefore, better able to estimate the true value of any statistics received by the committee and advise as to any schemes likely to aid in the eradication of the disease."

Election of Office Bearers

This resulted as follows:—

President: Mr. J. Allan, Castle Douglas, was elected on the proposal of the retiring President, seconded by Mr. G. W. Davidson, Castle Douglas.

Vice-President: The retiring President, Mr. W. T. Hewetson, was elected, Messrs. Young and Edgar being the proposers.

Secretary and Treasurer: Mr. R. Craig Robinson, supported by Mr. W. T. Hewetson, proposed the re-election of Mr. F. A. Davidson.

Honorary Treasurer's Report.

This was given by the Secretary, who drew attention to the fact that during the past year the annual subscription had been increased to £1 1s. in order to create a fund to be allocated towards the expenses of the Division's representative on the Councils of the N.V.M.A. and R.C.V.S. It was decided, on the proposal of Mr. A. J. Milligan, seconded by Mr. A. Young, that the total subscription collected during the year for this purpose to be paid over to the representative.

Any Other Business.

Sub-committee appointed to confer with the R.S.P.C.A.—On the proposal of Mr. R. Craig Robinson, seconded by Mr. W. T. Hewetson, Miss E. Burnett's name was added to this Sub-committee and Mr. J. Allan, the President, became, *ex-officio*, a member of the Sub-committee appointed to confer with the R.S.P.C.A.

Next Meeting.—It was decided to hold the next meeting at Carlisle towards the end of March or beginning of April, the Secretary to make suitable arrangements for a paper or practical demonstrations.

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Lecture.—After the business meeting lunch was taken at the hotel and was followed by a lecture on "Diseases of Poultry" by Captain T. M. Doyle, Ministry of Agriculture and Fisheries. The lecture was illustrated by exceptionally clear lantern slides and was much appreciated by the members. There was a very good and wide discussion and, in his reply, Captain Doyle conveyed much useful information to the members present, especially as the subject is a comparatively new branch of veterinary practice. The President, in proposing a vote of thanks to Captain Doyle, said that it had given them all great pleasure to attend the meeting that day and listen to a lecturer who was obviously an expert in this particular line. He felt sure that they would return to their daily routine with a much keener interest in the work affecting poultry and approach it with more confidence. He asked the members to accord Captain Doyle a very hearty vote of thanks and this was responded to enthusiastically.

Francis A. Davidson, *Hon. Secretary.*

In Parliament

The following questions and answers were recorded in the House of Commons recently:—

Milk Reorganisatiion Scheme

Viscount Lymington asked the Minister of Agriculture whether, in view of the fact that the Agricultural Marketing Bill makes no provision for the establishment of a central dairymen's board and a joint milk council with statutory powers, as recommended in the Report of the Reorganisation Commission for Milk, the Government intend to reject that part of the commission's recommendations?

The Minister of Agriculture (Major Elliot). The recommendations of the Milk Reorganisation Commission for the establishment of a statutory dairymen's board and joint milk council, which raise important questions of principle, have received the Government's careful consideration. While the Government is not prepared to introduce the special legislation which I am advised would be required fully to carry out these recommendations, provision has been made in Clause 11 of the Agricultural Marketing Bill which would enable action to be taken in the direction of consultation, and if necessary arbitration, between the interests concerned.

Viscount Lymington: Is my right hon. and gallant Friend aware that perhaps nothing could more fortify the confidence of the public in the milk reorganisation scheme than a body of this kind?

Major Elliot: I have said that under Clause 11 these particular requirements will be met.

. . . . . .

Public Health (Meat) Regulations (Norfolk)

Mr. Thomas Cook asked the Minister of Health if his Department has received reports of abuse of the Public Health (Meat) Regulations, 1924; and

whether the regulations are being adhered to in the county of Norfolk ?

Mr. Shakespeare: My right hon. Friend assumes that the reference is to the question of the occasional slaughter of animals on unregistered and unlicensed premises, and he has received a number of letters on this subject. It is primarily for the Local Authorities to determine to what extent such slaughtering is permissible and no specific allegations have been brought to his notice of failure by the local authorities in Norfolk to discharge their duties in this respect.

Notes and News

The Editor will be glad to receive items of professional interest for inclusion in these columns.

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DIARY OF EVENTS

April 10th.—Meeting of the Editorial Committee, N.V.M.A., at 2, Verulam Buildings, Gray's Inn, W.C.1, at 4.30 p.m.

April 12th.—Meeting of the West of Scotland Division, N.V.M.A., at Glasgow.

May 5th.—Meeting of the Mid-West and South Wales Division, at Bath.

May 10th.—Last day for nominations for election to Council, R.C.V.S.

May 24th.—R.C.V.S. Voting Papers and Annual Reports issued.

May 31st.—R.C.V.S. Council Election: last date for receipt of Voting Papers.

June 7th.—R.C.V.S. Annual General Meeting, 12 noon.

June 7th.—Annual General Meeting of Victoria Veterinary Benevolent Fund.

June 8th.—D.V.S.M. Examination begins.

Sept. 18th-23rd.—N.V.M.A. Congress, Llandudno.

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PERSONAL

It is announced that the wedding of Mr. Frederick T. J. Hobday, son of Sir Frederick Hobday and Lady Hobday, of Argyll Road, Kensington, and Miss Sczerina Neomi Radford, daughter of Mr. Daniel Radford, of Kojonup, Western Australia, will take place at Yeovil on April 22nd.

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R.C.V.S. OBITUARY

Cockerton, Benjamin Sumner, The Arches, Cambridge Road, Cambridge Heath, E.2. Graduated Edinburgh, May 22nd, 1897. Died March 31st, 1933, aged 61 years.

Moore, Henry, Barrowby House, 8, North Drive, Great Yarmouth. Graduated London, April 3rd, 1877. Died March 29th, 1933.

Mr. Moore formerly lived in Worksop, where he was one of the best known veterinary surgeons in Notts and the Midlands. He was often called to the Duke of Portland's racehorses at his Grace's Hunciecroft stables and to the other noblemen's establishments in the Dukeries. He had lived in retirement at Yarmouth for some years.

VETERINARY INSPECTION IN GLOUCESTERSHIRE

In presenting the report of the Diseases of Animals Sub-committee to the Gloucestershire Agricultural Committee at a recent meeting, the chairman, Mr. G. McIlquham, said he felt that his committee would never cease to be thankful for the extremely able way in which the veterinary inspectors in Gloucestershire had helped in improving the health of many herds.

At a meeting of the Veterinary Inspectors of Gloucestershire, held at Gloucester, on March 21st, it was unanimously agreed to accept the Contagious Disease of Animals Committees' offer to carry on the general inspection of dairy cattle for another year on the same terms as heretofore.

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MOVEMENT OF ANIMALS' LICENCES

The statement that local authorities have no discretion to withhold licences for the holding of markets, and for the movement of animals to market and elsewhere, when a standstill order has been imposed in connection with outbreaks of foot-and-mouth disease, was contained in the report of the Diseases of Animals sub-committee, which was presented to the Gloucestershire County Agricultural Committee recently.

The matter arose out of correspondence with the Ministry of Agriculture and Fisheries on the subject of the standstill order recently imposed when an important question of principle came up as to what were the proper functions of local authorities regarding the granting of licences. Their report stated that the committee had always acted upon that footing and when asked for a licence they were not only entitled, but, also bound, to exercise their discretion as to whether in the particular circumstances the licence should be granted or not.

The Ministry had, however, now suggested that that was not the correct position, and when asked for licences the authorities had no discretion, except in rare instances, to withhold them. The issue was an important one and the Committee proposed to seek an interview with the Ministry upon the subject. They had asked for the assistance of the Members of Parliament for the county constituencies and the members had agreed to give it.

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SMITH'S "HISTORY OF VETERINARY LITERATURE"

We are glad to be able to announce that Volume IV of the late General Sir Frederick Smith's "History of Veterinary Literature" has just been published, and we hope to supply our readers with a review of this important work in the near future. In the meantime, readers may like to know that it can be obtained from the publishers, Messrs. Baillière, Tindall and Cox, price 15s. net, postage extra.

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VICTORIA VETERINARY BENEVOLENT FUND

The ladies of the North of England Veterinary Medical Association held their Annual Progressive Bridge, Flag Whist, Party on March 11th, 1933, in the University Union, Newcastle-on-Tyne.

Prizes were given by the President (Mr. H. Hicks), Mr. H. S. Elphick (President Designate), Mrs. H. S. Elphick, Mr. W. A. Doughty, and Mrs. J. W. Rider.

A handsome rug, presented by Mrs. Hicks, and a Pyrex dish with silver stand, presented by Mrs. Doughty, were raffled, and the proceeds were of material assistance in augmenting the amounts realised by the party.

As the result of this highly-successful gathering the sum of £30 has been forwarded to the Victoria Veterinary Benevolent Fund.

The arrangements for the party were carried out by a Committee of ladies under the chairmanship of Mrs. Hicks, with Mrs. J. W. Rider as Hon. Secretary.

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National Horse Association

Sir John Moore as President

At the annual general meeting of the National Horse Association, which was held at 12, Hanover Square, W.1, on March 29th, Major-General Sir John Moore, K.C.M.G., C.B., F.R.C.V.S., was elected President for the year, in succession to Lord Mildmay of Flete, with Mr. Nigel C. Colman, M.P., as President-elect (*i.e.*, President in 1934).

The Report of Council to members shows that the membership has increased from the 1932 figure of 464 to 509, and that of Veterinary Societies from 10 to 16. In it is detailed the admirable work of the Association in prosecuting the interests of the horse, and horse-owners and societies (to which reference has been made in the *Record* as it has proceeded) under the following heads: Light Horse and Pony Breeding Grants, Slippery Roads Campaign, Parliamentary Activities, Railway Rates, Publicity Campaign, Richmond Park Regulations and Medal Schemes (including bravery awards).

In moving the adoption of the report, Lord Mildmay of Flete expressed the hope that during the current year the membership might be doubled. Horse owners had never been noted as talkers, but were usually practical men. Now was undoubtedly the time for them to act, as it would be a calamity if the country lost its place as the premier centre where all other countries must come for their horses. He specially called attention to the good work of the Slippery Roads Committee, and felt that the all round improvement in road surfaces was largely due to the personal touch that the Committee had introduced among surveyors.

Members present having expressed their satisfaction with the work and progress of the Association, and no suggestions being forthcoming, the meeting concluded with a hearty vote of thanks to the retiring President—Lord Mildmay—for his wholehearted interest and efforts during his year of office.

At a preceding Council meeting, Lord Mildmay proposed the election of 33 new candidates to the membership, including eight new Societies, making a total of 126 Societies supporting the Association's activities.

The Council approved the award of a Gold Medal to Mr. E. Thomas (aged 19) a pit boy, who rescued a pit pony from suffocation at Merthyr Vale. The pit roof collapsed, covering the pony, and while the roof was still falling, Mr. Thomas got on the pony's neck, and broke the collar, allowing the pony to breathe.

A Merit Certificate was also awarded to P.C. Birchall for stopping two runaway horses in Leeds, approaching a crowded road with cross traffic. The constable receiving severe injuries.

Sir John Moore reported that the Horse Owners' Reference Book for 1933 had proved highly successful. Many members had expressed their approval, and a steady sale demand had been received for the Reference Book.

The Publicity Committee had learnt with pleasure that the Alnwick Council at a recent meeting had decided to retain its present system of scavenging with horses and carts, experiments with a motor lorry having been adjudged unsuccessful. It was felt that if other Councils investigated the cost of running both forms of transport they would find that the horse was the more economical and useful.

Sir John Moore reported that he had addressed the Parliamentary Agricultural Committee of the House of Commons on the provision of grants for horse breeding, and copies of his remarks were approved, and are available to those interested.

It was unanimously decided that the Horse Association of America should be elected Hon. Members of the Association, in recognition of the valuable work that they are engaged upon in fostering a love of horses in America. The two Societies would thus work in close co-operation.

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SHIRE HORSE SOCIETY

At a recent meeting of the Council of the Shire Horse Society, in accordance with elections made by the Members at the Annual General Meeting at the recent Show, Sir Edward D. Stern, Bart., was formally installed as President, and the Duke of Devonshire, K.G., as President-elect, *i.e.*, President in 1934.

Messrs. J. M. Belcher, Junr., W. J. Cumber, George Gotheridge, and Allan Holm, were elected as Judges at the London Cart Horse Parade on Whit Monday, and Messrs. T. P. Stuart, and T. M. Watson to represent the Society at the Liverpool May Day Parade.

Sir Walter Gilbey, Bart. (Chairman), reported that since the last meeting, prize money, etc., had been paid amounting to £1,200 16s., leaving the sum of £1,272 11s. 9d. on current account. The remaining prizes and accounts in respect of the London Show—amounting to £1,126 15s. 10d.—were passed for payment. The estimated cost of the Show was £1,948, as compared with £1,865 last year, and £1,930 in 1931.

In presenting the Report of the Horse Show Committee, Sir Walter Gilbey said that although illness prevented his attendance at the recent Show, he had heard from all sides what a wonderful exhibition the fifty-fourth Show had been, and he was pleased to have had confirmation of those reports from the Committee that morning. The entry equalled the previous Show, there were fewer absentees, the report of the veterinary surgeons indicated a standard which it would be well-nigh impossible to improve upon, there had been an improved auction sale, and finally, it was agreed all round that the Commercial Classes were by far the best that had ever been seen in the Agricultural Hall.

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FOOT-AND-MOUTH DISEASE PROSECUTION

The fact that he was liable to fines totalling £715 was pointed out by the prosecuting solicitor when Thomas T. Davies, a cattle dealer and farmer, of Fardre Fach, Llandyssul, Cardiganshire, was summoned at Clerkenwell Police Court for offences against the Foot-and-Mouth Disease Regulations.

There were five summonses relating to the movement of animals intended for slaughter from Wales to the slaughterhouse of Mr. Guttridge at the Metropolitan Cattle Market, Islington, on January 19th. Three summonses alleged that 86 calves were moved from Carmarthen; 27 pigs from Henllan, Cardiganshire; and 10 calves from Llandyssul respectively with removal orders granted by the inspector of the local authorities without these animals being marked to show that

they were intended for slaughter. The other two summonses alleged that the 27 pigs and 10 calves were moved under removal orders in respect of greater numbers of animals.

The defendant pleaded guilty to all the summonses and was legally represented by Mr. Frank Powell, barrister. A number of witnesses had been brought from Wales by both parties, but were not called.

After a lengthy hearing the magistrate said that the regulations were framed in order to deal with what was undoubtedly a very grave menace. "In order that the knowledge of what is required may penetrate to the country centres I will make the penalty £5 on each of the five summonses, and five guineas costs."

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STANDARDS IN THE MILK INDUSTRY

The value of co-operation between milk producers and medical officers and the veterinary services was emphasised by Lieut.-Colonel C. Waley Cohen in an address on "Standards in the Milk Industry" at the Royal Sanitary Institute, Buckingham Palace Road, S.W., on March 29th.

Colonel Waley Cohen indicated the lines on which co-operation locally, county by county, had succeeded in improving the general standard of milk production, and said that a further step forward with the universal inspection of herds by county veterinary officers was proposed. He had no doubt this would help by educating and hastening on the sluggards. In general, he favoured the Milk Commission's proposal for "accredited producers," and said that he expected the standard for accredited producers would soon reach Grade A standard. From the results of examination of Grade A milk for tubercle infection over a number of years, he thought that this problem would be reduced to a minimum, if not entirely eliminated. While it was the duty of the State and local authorities to make provision to ensure that minimum requirements were observed, the raising of the standard—and the main task of ensuring a recognised hygienic quality—must rest with producers and distributors. The task of educating the public that a recognised hygienic quality had been attained was one in which medical officers and the medical profession generally could play a part.

He suggested that the joint board under the Milk Marketing Scheme should form a committee with three representatives each of the producers' and distributors' board, two representatives each from the Society of Medical Officers of Health and the veterinary profession, with perhaps an appointed member as chairman, to deal with standardising and grading research and improvement in milk standards. They should be empowered to make grants for the elucidation of particular problems by the National Institute for Dairying or the London School of Hygiene, or any other suitable body.

A majority vote for a big change was less important and valuable than a unanimous vote for a measured advance. He therefore doubted whether the suggestion of the Milk Commission that the Ministry of Health should consult the appointed members on the Central Board before issuing orders would not place these members in an invidious position. The whole board should be consulted. He emphasised the importance of unanimity and deprecated the proposals in the Milk Commission's report which seemed to suggest that the appointed members should be in a position to dictate to the industry through the Ministry of Health on the subject of standards.

Errata.—In Major T. Lishman's letter on the subject "What is this so-called Sewage Poisoning of cattle?" published in our last issue (page 295, column 2) for "able" read "unable" in line 28, making the sentence to read: "I regret that, so far, I have been unable to consult this work," ("Veterinary Pathology and Bacteriology," 1932, by Gaiger and Davies), "but in spite of such a handicap I think I can state that I shall require a good deal of convincing that some animals, *e.g.*, horses are *unable* to drink, and thrive on it, water containing an amount of typhoid contamination that would be absolutely, without doubt, pathogenic to man."

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We regret that from the list of Officers Royal Army Veterinary Corps presented to His Majesty on the occasion of the Levée held at St. James's Palace, on Tuesday, March 28th, published in the *Veterinary Record* of April 1st, 1933, the name of Colonel J. J. B. Tapley, D.S.O., was omitted. Colonel Tapley was the senior officer presented.

Correspondence

Letters to the Editor should reach the Office not later than by the first post on Tuesday morning for insertion in following Saturday's issue.

All correspondence must bear the name and address of the contributor for publication.

The Editor does not hold himself responsible for the opinions of his correspondents.

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ROYAL SANITARY INSTITUTE CONGRESS, BLACKPOOL

To the Editor of the Veterinary Record

Sir,—Please may I be permitted to make use of the columns of the *Veterinary Record* to direct the attention of all veterinary surgeons to the Veterinary Hygiene Section of the above-mentioned Congress, which will be held in Blackpool from June 17th to 24th.

The Veterinary Hygiene Section will meet on June 22nd and 23rd and has a very attractive programme. On the first day, the President, Mr. J. R. Hayhurst, M.R.C.V.S., D.V.S.M. (Vict.), Superintendent and Chief Veterinary Inspector, Metropolitan Cattle Market, Islington, will deliver a Presidential Address, which will be followed by a paper on "The Latest Developments in the Slaughter and Inspection of Animals for Food," by Captain W. Tweed, M.R.C.V.S., D.V.S.M., Chief Veterinary Inspector, Sheffield. On the second day there will be a paper on "The Diseases of Poultry, Rabbits and Game and their *Post-mortem* Inspections," by Mr. N. Dobson, B.Sc., M.R.C.V.S., of the Ministry of Agriculture and Fisheries, to be followed by a paper on "Food Adulteration of To-day," by Mr. C. H. Manley, M.A., F.I.C., City Analyst, Leeds.

In view of the importance of these subjects to veterinary surgeons, it is considered desirable that their early attention should be drawn to the Congress in order that they may make arrangements and be able to attend the Veterinary Hygiene Section in satisfactory numbers and thus assist in maintaining our claim as a profession to be the proper officers for all food inspections.

Yours faithfully,

J. A. Dixon,
Recording Secretary, Section "D,"
Veterinary Hygiene.

Public Health Chambers,
12, Market Buildings,
Vicar Lane,
Leeds.
March 29th, 1933.

VETERINARY INSPECTION SERVICE

To the Editor of the Veterinary Record

Sir,—In reply to Mr. Sangster's letter of March 27th, 1933, in the current *Veterinary Record,* may I comment that he is taking it for granted that the correspondence ventilating the recommendations of the Grigg Commission, and its repercussion on the veterinary profession—that whole-time men, *only,* are capable of carrying out their recommendations—relates only to the duties of whole-time men.

He begs the question when he states that "a number of correspondents would seem to be agreed that a whole-time veterinary service is desirable if not essential."

My letter certainly did not agree to the appointment of a whole-time service, nor did I agree that even one Chief Veterinary Officer was essential. I do not. Nor can I read into Dr. Hare's letter, or those of Mr. Tutt or Mr. Powell, anything approaching an agreement on that point.

My letter was emphatic that a whole-time service was out of the question, but, if a whole-time service was essential, then one whole-time man on the lines of a Medical Officer of Health would be all that was necessary.

I am pleased to see that at least one whole-time man agrees that the creation of a veterinary health service would be incomplete without part-time men, as he concedes that "Routine work, such as daily herd inspection and tuberculin testing could be carried out as efficiently, *if not more so,* by experienced practitioners as by young whole-time officers."

In that case, the question of a whole-time veterinary service falls to the ground. There would be nothing for the whole-time men to do.

Mr. Sangster also agrees that a part-time system "would ensure the services of a veterinary surgeon to many areas, where a practitioner could not eke out a livelihood without the extra income from Local Authority work." That is exactly the point! The case could not be better put for the creation of a part-time service as against a whole-time one, and I welcome this admission on Mr. Sangster's part.

This makes the remainder of Mr. Sangster's letter easy to answer—only his last paragraph remains. "Where a chief whole-time officer has been appointed there has followed the appointment of whole-time assistants."

Is the answer obvious? I leave it at that.

Let me take this opportunity of thanking the many correspondents who responded to my letter of March 2nd. There were too many to answer individually, so I ask them to accept this means of acknowledging their helpful letters.

I have the honour to be, Sir,
Your obedient Servant,
J. W. Hall Masheter.

Ruddle House,
Newnham-on-Severn.

April 13th, 1933.

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"WHAT IS THIS SO-CALLED SEWAGE POISONING IN CATTLE?"

To the Editor of the Veterinary Record

Sir,—I am at one with Mr. T. Lishman in considering that a general discussion on "sewage poisoning" in your columns should not prejudice any particular law case on the stocks: on the contrary, it might enlighten the eyes of justice. I am afraid, however, that Mr. T. Lishman is not too sound in his opinions. If he wanted to establish his case in a court of law I fancy he would not rely on a text-book like "Everyman's Own Lawyer" or quote the *obiter dicta* of learned judges. He might probably consult ponderous legal tomes right down the ages, and, at any rate, he would quote some modern and reliable judgment to establish his case, and even then there might be a choice of "a ganging plea."

Therefore, to be fair, and up-to-date, he ought to have a full acquaintance with "Veterinary Literature" and consult the experts on the matter. Veterinary pathology and bacteriology have advanced marvellously since 1907, and general statements made then have little or no value to-day.

Yours faithfully,
G. Mayall, M.R.C.V.S.

Bolton.

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PRONUNCIATION OF THE WORD "VETERINARY"

To the Editor of the Veterinary Record

Sir,—I beg to offer a few remarks upon a subject raised by Mr. Esmond Brown in his very entertaining Presidential Address delivered to The Scottish Metropolitan Division N.V.M.A., on February 8th, 1933: I refer to the pronunciation of our descriptive name "Veterinary."

The stumbling block in reaching uniformity of pronunciation of this somewhat cumbersome word appears to be the second "e." Its presence permits of a variety of pronunciation:—Vet-er-inary, Ve-ter-inary, etc. Some persons have overcome the doubt by cutting out the second syllable altogether, making the word Vet-inary or Vetin-ary.

According to Chamber's Dictionary it is "Vete-ri-na-ri." I have never heard it pronounced so, except, perhaps, by foreigners.

When I was trying to decide upon a career some 35 years ago, I noticed the fact that my headmaster—a learned classical scholar—used the word as though there were no second "e" "Vetrinary." It looks strange, but I humbly submit that the adoption of this form both in speech and in writing (if permissible) would give us a more euphonic or pleasanter-sounding appellation about which there would be no doubt.

The same remarks would apply to the noun "Veterinarian."

In this connection, why is a doctor of animals never known as a veterinary "Physician"—"One skilled in the use of physic or the art of healing," the word "Surgeon" implying "one practising some form of manipulation?"

Yours faithfully,
E. S. Martin.

Magnolia House,
Christchurch, Hants.

March 30th, 1933.

The Editor acknowledges, with thanks, the receipt of the following:—

Reports of meetings of the Lincolnshire, the North of England, and the Royal Counties Divisions, N.V.M.A., from Mr. H. C. Reeks, Junr., Captain J. R. Rider, and Mr. H. Bell, respective Hon. Secretaries.

Communications from Dr. T. W. M. Cameron (Toronto), Messrs. F. C. Heathcote (Bridgnorth), H. Llewelyn Jones (Llanrwst), T. H. Mitchie (Coulsdon), Lieutenant-Colonel J. W. Rainey (Newbury).